

The

CONSTRUCTOR

OFFICIAL PUBLICATION OF THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA



Volume XXXII

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Number 9

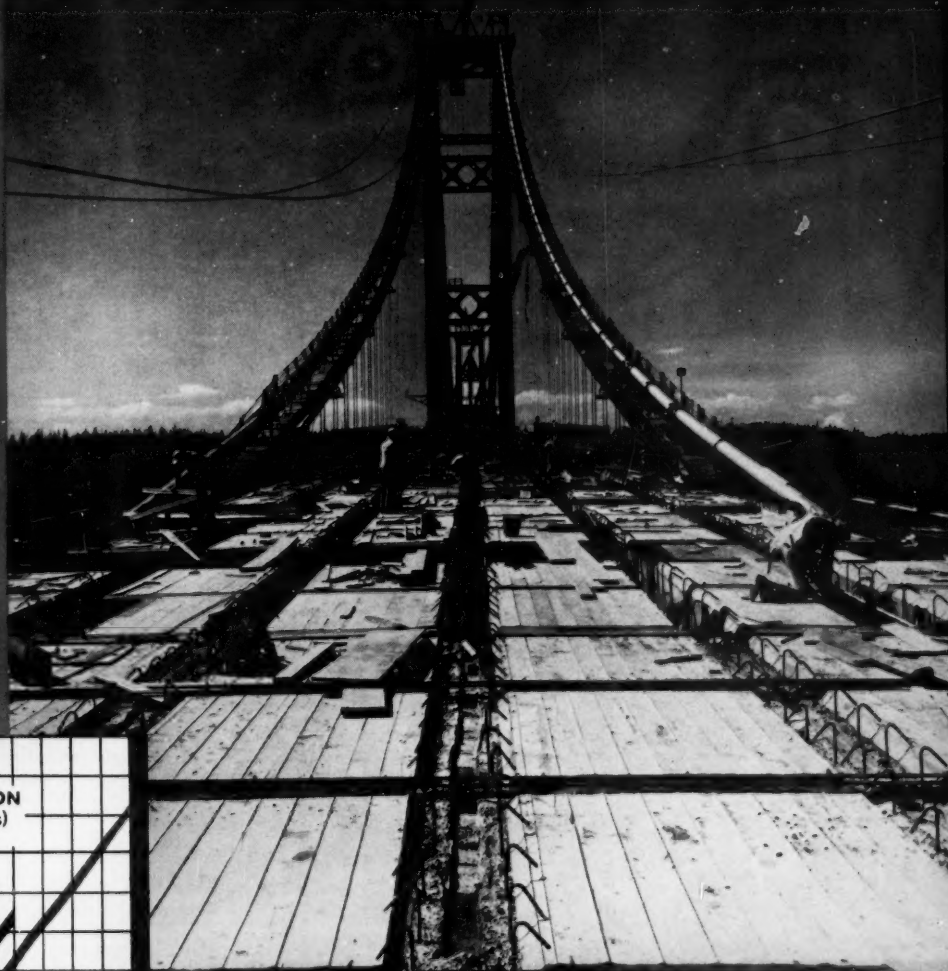
● BUILDINGS

● HIGHWAYS

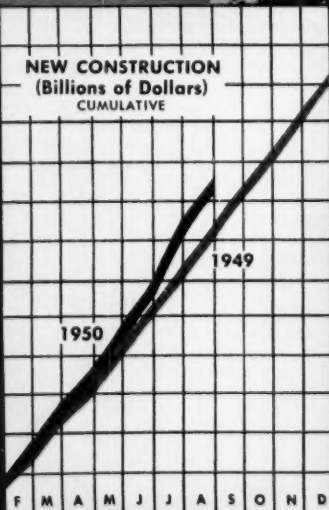
● AIRPORTS

● RAILROADS

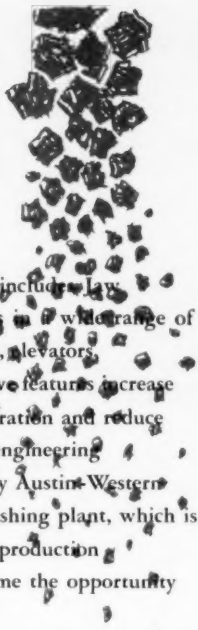
PUBLIC WORKS



NEW CONSTRUCTION
(Billions of Dollars)
CUMULATIVE



MAKING LITTLE ONES OUT OF **BIG ONES**



"61"

Designed for fast, economical production where extreme accuracy in grading to size is not required. Compact, lightweight and readily portable. Simple design and sturdy construction keep operating and maintenance costs at a minimum.

The AUSTIN-WESTERN LINE includes jaw Crushers and Roll Crushers in a wide range of sizes; plus matching screens, elevators, conveyors and bins. Exclusive features increase output, assure constant operation and reduce maintenance costs. Skilled engineering characterizes each and every Austin-Western crushing, screening and washing plant, which is tailor-made to a particular production problem. We would welcome the opportunity to discuss yours.

AUSTIN-WESTERN COMPANY

Aurora, Illinois, U.S.A.



"201"

You'll like its **READY PORTABILITY**... **CHOICE OF FEED**... **HIGH OUTPUT**. The "201" is of a size and weight that can be transported over most highways without a special permit...

... may be had with either shovel-loading hopper, or swivel drive for separate feed conveyor... is capable of producing especially large amounts of $\frac{3}{4}$ " and smaller product.

BUILT BY **Austin**  **Western** 1909 1969



Ryerson Reinforcing... Delivered as Scheduled

Your reinforcing steels are always ready as needed when you use Ryerson reinforcing service. That's because your nearby Ryerson plant has ample facilities to meet fast schedules, and Ryerson deliveries are dependable.

There's no waiting for Ryerson reinforcing—nor is there large-tonnage dumping of future requirements. Piling up steel ahead of job progress means time wasted in sorting and rehandling. To prevent this, Ryerson deliveries are flexible—can be quickly adjusted for unforeseen construction delays. And if the job jumps ahead of schedule, we step up deliveries to keep pace.

Ryerson also offers the advantages of complete service from setting plans to steel on the site. Accurately fabricated bars are identified for easy placement with metal tags that can't tear loose. And you can save time by ordering all other steels, prepared

and ready for the job, from Ryerson stocks that also include wire mesh, structurals, plates, sheets, tubing, and every other steel product.

On your next job let us quote you our lump sum or average pound price.



Hi-Bond from Ryerson for Greatest Bond Meets and Exceeds New ASTM Spec. A305-49

With Hi-Bond reinforcing bars, designers can take full advantage of the higher compressive strengths of modern concretes and the higher tensile strength of new steels. Write for new bulletin describing Ryerson service on this unique reinforcing bar. Ryerson Steel, Box 8000-A, Chicago 80, Illinois.

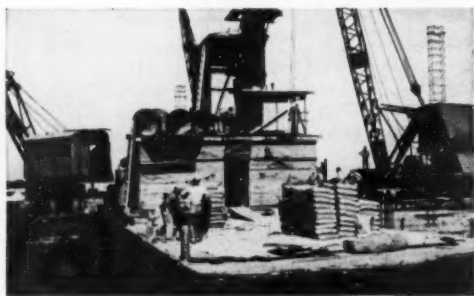


RYERSON STEEL

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • PHILADELPHIA • CINCINNATI • CLEVELAND
DETROIT • PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO



Selective Concreting SAVES TIME AND MONEY ON BEAUTIFUL DAYTONA BEACH BRIDGE



**CARLETON-BLANK BRIDGE
ACROSS HALIFAX RIVER, DAYTONA BEACH, FLORIDA**

Design and Supervision:
FLORIDA STATE ROAD DEPT., BRIDGE DIVISION

General Contractor:
TIDEWATER CONSTRUCTION CORPORATION
Norfolk, Va.

'Incor' (9462 bbls.) and Lone Star (7488 bbls.)
supplied through:
MITCHELL & ALEXANDER, Daytona Beach

● Eye-pleasing Carleton-Blank Bridge across the Halifax River, part of the Inland Waterway, connects Daytona Beach and its beautiful ocean-front, scene of many an automobile and motorcycle speed classic.

Designed by Florida's State Road Department, construction methods reflect concreting experience of a high order. Witness the fact that the General Contractor, Tidewater Construction Corporation, of Norfolk, Va., planned the project to take full advantage of the dependable high early strength of 'Incor' 24-Hour Cement, particularly in the substructure.

Just about half the usual number of forms were required in placing 5293.8 cu. yds. of substructure concrete—and forms cost plenty these days! Elsewhere in the bridge, Lone Star Cement was used.

Selective concreting pays—figure each job with both 'Incor'* and Lone Star... use each cement where it shows the lowest cost of concrete in place and ready to use. There's real money to be saved—and often net profit pivots on this point. *Reg. U.S. Pat. Off.



LONE STAR CEMENT CORPORATION

Offices: ALBANY • BETHLEHEM, PA. • BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • JACKSON, MISS. • KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK • PHILADELPHIA • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 15 MODERN MILLS, 27,500,000 BARRELS ANNUAL CAPACITY

The CONSTRUCTOR

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COVER

Workmen are shown here preparing the pre-building forms on the deck of the mammoth new Tacoma Narrows bridge destined soon to join Tacoma with the scenic Olympic peninsula. The bridge towers loom in the background. Woodworth & Company, Inc., A.G.C., Tacoma, has the contract for pouring some 4,300 cubic yards of concrete which is being placed at a rate of 250 yards per day. Plywood forms were specified for casting the roadway slab. Once the concrete has cured, the plywood forms will be stripped away from beneath by a travelling crane. John A. Roebling's Sons Company is scheduled to complete the contract for anchor steel, cables, cable bands, suspenders, and other pertinent parts by October 1. The opening of the \$11 million structure is set for a date between October 1 and November 15. Bethlehem Pacific Coast Steel Corporation is the prime contractor. More details and pictures will be found on pages 37-38. (Bethlehem Photo.)

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No other Paver offers so much!

A greater range of sizes to choose from for your particular problem. Three sizes, from the 27-E (ideal for general construction work with the HighLift Boom) to the 34-E DuoMix for the heavy road job.

- Greater simplicity of design—only one main shaft, everything in units and easily get-at-able—you don't have to be a mountain goat to take care of a MultiFoote.
- All high-speed shafts on anti-friction bearings sealed against dirt.
- More engine power.
- A simple, direct, fast skip hoist—less cable wear, easy to reave.
- Skip "A" Frame easily lowered by power, reduces skip hoist power required, reduces cable ten-

sion and lengthens skip hoist cable life.

- Double Cone Drum does not build up in the corners, reduces time required for cleaning.
- Helical Gear Drive built as a separate unit. The finest speed reducer on any paver.
- Crawlers with real self-cleaning action, no pockets to fill, no U bolts or overhanging axles to give trouble.
- Mechanical control for either manual or automatic cycle is free from delicate mechanisms. Your paver can't be shut down because of control failure.
- The HighLift Boom—an asset that puts concrete 23 feet up (higher with special booms) allows you to pour wall without ramps, false work or hoisting equipment.
- Other advantages that mean low cost operation and higher output.

THE FOOTE COMPANY, INC.

Subsidiary of Blaw-Knox
1914 State Street, Nunda, New York

Brabant Brothers using MultiFoote Paver and Blaw-Knox Finishing Equipment on International Highway.



MULTIFOOTE PAVER

FOR EVERY PLACE CONCRETE MUST BE POURED



Do you lay Black Top? The Adnun is an all 'round Black Top and Material Spreader. One machine for black top, stone, slag, cinder, sand or soil cement. Does the job with less cost for subgrade preparation—Ask for details.

A product of The Foote Company, Inc., Nunda, N.Y.

ADNUN BLACK TOP PAVER

Current construction picture shows increased shortages of materials, machinery, workmen; general price increases with lumber underscored; pressure for increased wage rates; and the highest volume of work in history. These facts, and outlook for continued large volume during the year, revealed in late August survey by A.G.C. of its 112 chapters and branches and directors throughout United States and Alaska, which was to be studied this month by Mid-Year Meeting of association's Governing and Advisory Boards at Chattanooga, Tennessee. (page 23)

Survey coincides with preliminary estimates of unprecedented \$17.2 billion volume of new construction during first eight months of 1950, about 20 per cent ahead of same period last year. Commerce and Labor Departments estimate \$2.7 billion peak in August, largest monthly volume ever recorded. Booming residential construction underpinning volume is joined by rising industrial, commercial and public work. Every indication bears out early year forecasts of some \$26 billion in new construction, barring further extraordinary international developments or use of extreme controls. (page 24)

Public works projects are being carefully scrutinized by federal agencies, which have set up criteria for the starting of new work and continuing current programs. This is in compliance with July 21 letter from President Truman asking deferral of non-essential projects. Congressional conferees also added their criteria for Corps of Engineers' civil works in report on general appropriations bill. (page 25)

Defense Production Act of 1950 expected to be ready for President's signature early in September. He will be given broad powers to control the nation's economy to the extent he deems necessary for national defense. Authority to impose priorities, allocations, requisitioning, price and wage controls, rationing, and expand productive facilities are much the same as used in last war. New wrinkle is regulation of real estate credit to control new construction. Marked differences

in House and Senate versions late in August were being settled by conferees. (page 28)

Control of new construction will probably be administered by Federal Reserve Board, which will have authority to regulate credit controls provided in Defense Production Act. All construction begun after August 3, 1950, would be subject to governmental regulation.

\$36 billion general appropriation bill finally passed by Congress and sent to White House after months of wrangling. Delay was compounded by Korean incident, more emphasis on defense spending, deflation of non-essential spending. As sent to President, bill requires him to chop off \$550 million from the over-all figure. Public Works as target were mentioned prominently in Washington newspapers as representatives of federal agencies conferred at Budget Bureau on where to pare their activities. (page 30)

Several A.G.C.-sponsored reserve construction units have been alerted for active duty. M. C. Miller, lieutenant colonel in command of one and prominent in association affairs, called. (page 35)

Civil defense relationship has been established between New York State Chapter, A.G.C., and State Department of Public Works to effectively utilize repair and construction potential of state in event of an enemy attack. (page 35)

Tacoma Narrows bridge, third longest suspension span in world, scheduled for opening within few weeks. Design and construction of the successor to ill-fated "Galloping Gertie" presented challenge. (pages 37-38)

Production records in building materials for May, just made public by the Commerce Department, show an all-time high for that month. This was 67 per cent above the 1939 index, 13

per cent above the month of April which exhibited a greater-than-seasonal increase, and 26 per cent above the index for May 1949. Almost twice as much cement was produced in May of this year as in the average month before the war.

Popularity of A.G.C.'s new booklet, "Undivided Responsibility—Key to Lower Construction Costs" continues among the members. The first edition is nearing exhaustion.

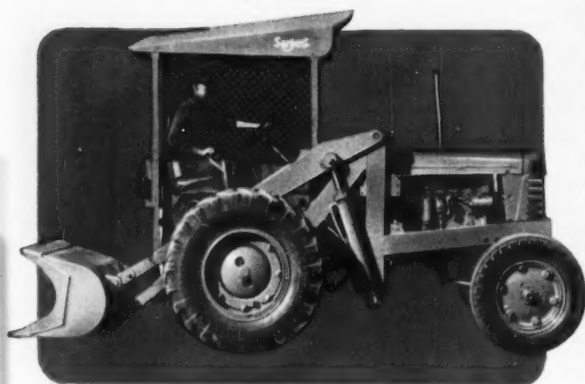
The ill-starred amendment to the War Contractors Relief Act (Lucas Act of April 7, 1946), even in its revised form, aroused the ire of President Truman. After its proponents had worked it around into a shape they felt would receive presidential approval, the second veto message was as stern and chilly as the first. He hinted that some contractors felt they must have statutes of this kind in order to get fair and equitable treatment from the government. (page 32)

Authorization of \$594 million per year in federal aid for highways for 1952 and 1953 is regarded favorably in view of current policies of retrenchment in public works, since it is approximately 10 per cent above the current authorization and exceeds the amounts contained in the acts of 1944 and 1948. A breakdown of the bill will be found on page 32.

Intense competition among general contractors for new work coming on the market, reported in A.G.C. studies of February and June 1950, continues unabated, according to reports reaching Washington from A.G.C.'s 112 local affiliated organizations located throughout the United States and Alaska.

President Truman has asked for \$139.8 million to construct office space, highway and communication facilities for federal workers in the Washington area. Aim is to insure continuous functioning of essential operations in event of an emergency.

Now... *the Most Versatile Loader on Wheels!*

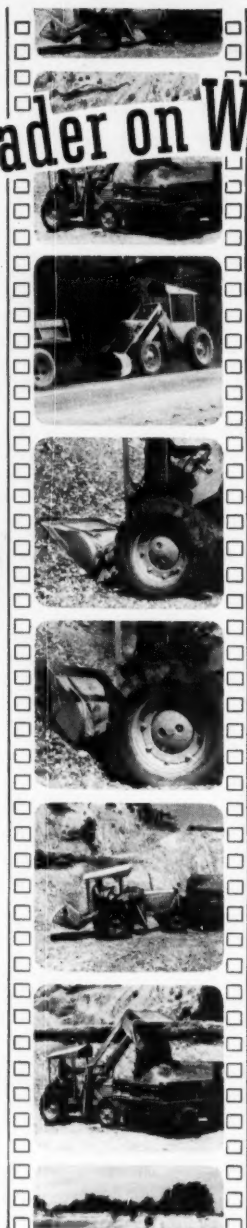


Here's the most versatile, practical loader ever developed for wheel tractors. It can dig in front . . . dump in front like the conventional loader. BUT, it can also dig in *back* and load in *front*.

You can dig in back . . . move straight forward to the truck . . . the bucket swings *straight over* the roof . . . and the load is dumped into the truck. Thus you eliminate the turning necessary with ordinary front end loaders . . . eliminate *half* the gear shifts and *half* the clutch wear. You save time and fuel . . . cut operator fatigue. You speed loader operations . . . can load at better than a yard a minute.

You get far greater traction and almost effortless steering with the Strait-Line. Rear-carried bucket load adds needed weight to the rear driving wheels . . . subtracts weight from the front steering wheels. Increased traction plus the new PUSH-TILT bucket with extended loading lips, enables you to get bigger bucket loads. Two levers control all operations.

Add them all up . . . ability to select your type of digging, front or back as the job requires . . . Strait-Line operation with back digging which gives you faster operation, greater traction and easy steering . . . fuller buckets . . . and you'll see where your operations can profit with the Strait-Line. For information and literature, see your Oliver Industrial Distributor or write direct to The OLIVER Corporation, 19300 Euclid Avenue, Cleveland 17, Ohio.



Conventional front digging, primarily used with Strait-Line where unit digs and moves straight ahead to load.

Back digging. Note how extended loading lips easily penetrate the bank.

PUSH-TILT action which lifts cutting edge 20° and thrusts it into bank.

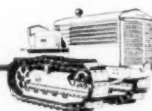
Carrying position—bucket is tilted to retain load and is carried low enough to increase both traction and stability.

Dumping position. Bucket has been carried over the roof and dumps in front.

THE OLIVER CORPORATION

A complete line of industrial wheel and crawler tractors

"FINEST IN INDUSTRIAL MACHINERY"



The Sign
of
Extra Service



A Series of Graphs Outlining the Construction Trend

Compiled by The Associated General Contractors of America

TREND OF CONSTRUCTION COSTS

The average of construction costs in the principal construction centers of the United States for August stands at Index Number 366, according to the A.G.C. Index. The cost figure for August 1949 was 342. The 1913 average equals 100.

Number 284. The average a year ago stood at 262. The 1913 average, again, equals 100.

CONTRACT AWARDS IN 37 STATES

The volume of contracts awarded during July (Index Number 303, based on 1936-1938) is an increase of 10 points from June, and an increase of 94 points above July 1949.

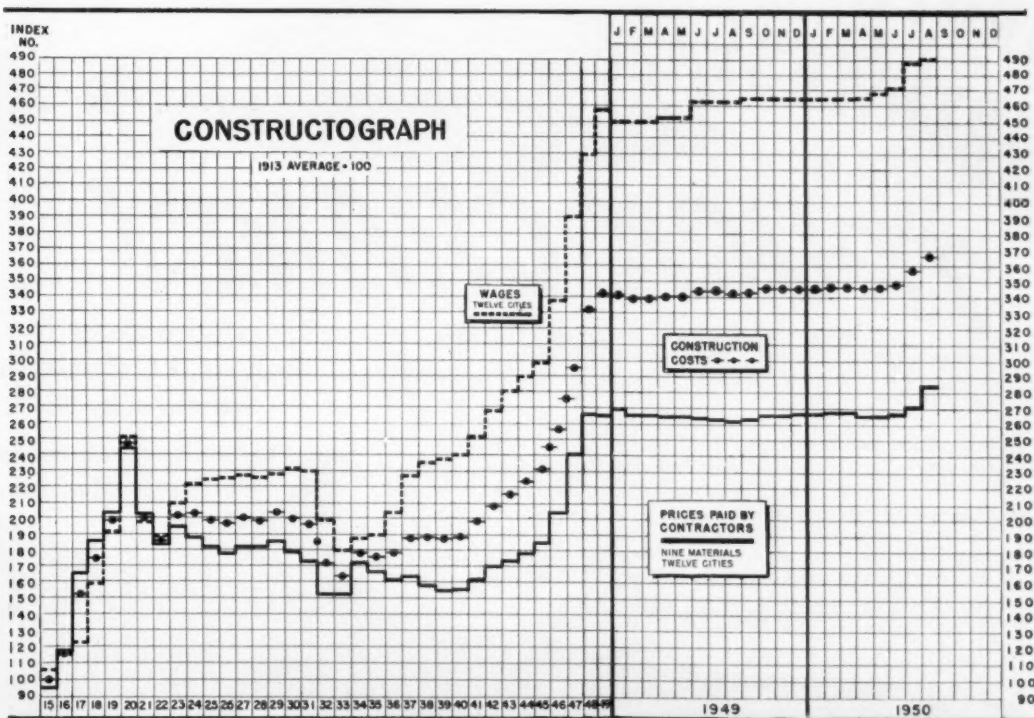
WAGE AND MATERIAL PRICE TRENDS

The average of wages in the principal construction centers of the United States stands at 491 for August. One year ago the average stood at 462. The average of prices paid by contractors for basic construction materials for August stands at Index

REVENUE FREIGHT LOADINGS

Revenue freight loaded during the first 33 weeks of 1950 totaled 23,440,848 cars. For the same period in 1949, loadings amounted to 23,675,253 cars. This represents a decrease of 1 per cent.

● Wage, Material Price and Construction Cost Trends



One of four Northwest
Truck Cranes owned by
Poirier & McLane working
on the new U.N. Buildings.

ANOTHER
NORTHWEST

TRUCK CRANE!

POIRIER & McLANE know Northwests! They have used Northwest Crawler Equipment and have found out what Northwest advantages mean in the way of increased output and low upkeep cost.

They have had experience with Truck Cranes too and it is significant that they have added one, two and three more Northwest Truck Cranes to their fleet after their original order.

Repeat orders from responsible owners are the best possible testimonials to service—the type of service *you* are looking for. Don't buy a Truck Crane without checking into the Northwest. Not only will you find it a better crane but you will find carrier improvements found on no other Truck Crane.

NORTHWEST ENGINEERING COMPANY
1502-8 Field Building, 135 South LaSalle Street, Chicago 3, Illinois

**makes four for
Poirier & McLane Corp.
New York, N. Y.**

**This makes their seventh
Northwest Machine.**



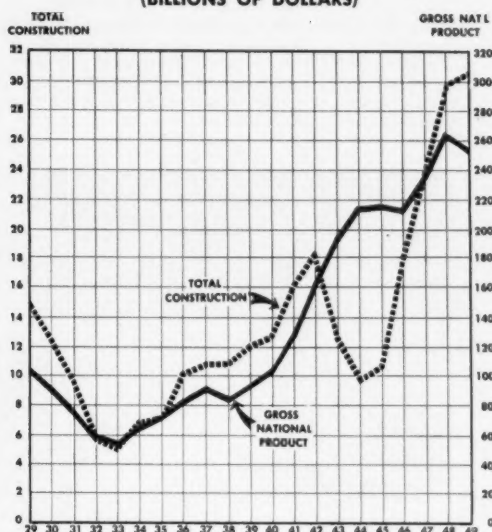
WHETHER SHOVEL, CRANE, DRAGLINE,
PULLSHOVEL or TRUCK CRANE

a ton on every job!

NORTHWEST

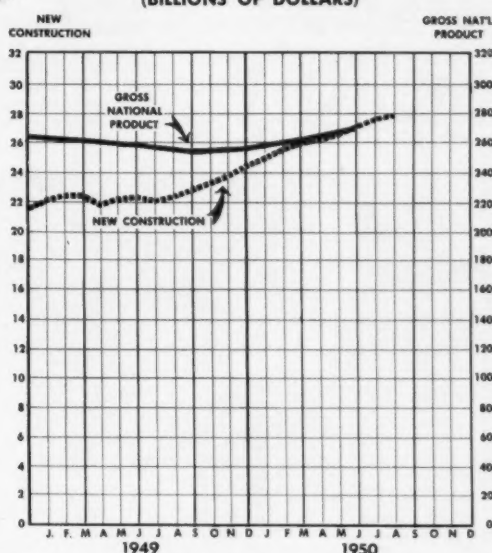
CHAWLER and TRUCK MOUNTED SHOVELS-CRANES-DRAGLINES-PULLSHOVELS

● TOTAL Construction compared with Gross National Product (BILLIONS OF DOLLARS)



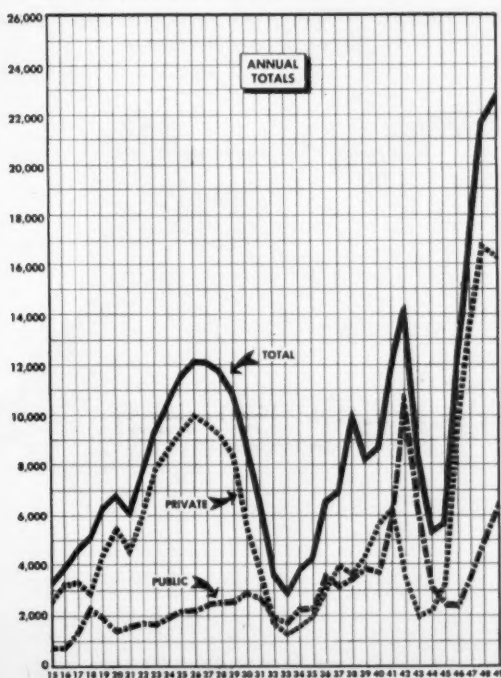
DATA SUPPLIED BY DEPT. OF COMMERCE

● NEW Construction compared with Gross National Product* (BILLIONS OF DOLLARS)

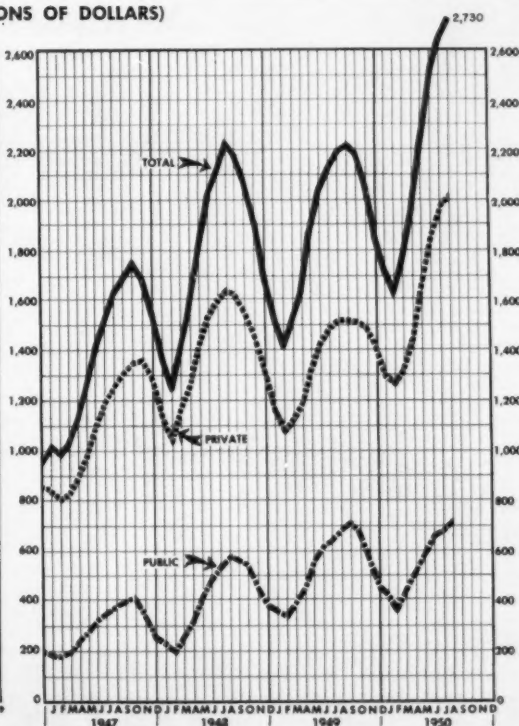


* Seasonally adjusted at an annual rate

● New Construction Activity (MILLIONS OF DOLLARS)



DATA SUPPLIED BY DEPTS. OF COMMERCE AND LABOR



ALLIS-CHALMERS

Design Simplicity

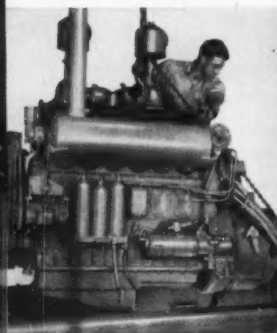
Another Big Reason Why HD-19 Leads in Tractor Output

Gears, pinions and bearings by the dozen have been eliminated in the HD-19. This means fewer parts to wear—fewer breakdowns and fewer repair bills.

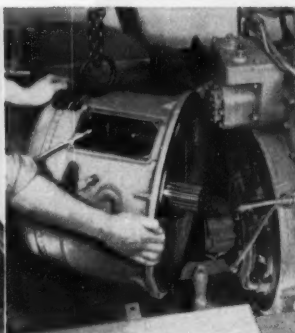
When maintenance is necessary, each assembly is readily accessible for attention. The HD-19 is designed so that each major unit may be easily removed and repaired or replaced *right on the job* without removing un-

related parts. The time and labor saved means substantial increases in the HD-19's over-all output. Remember, a tractor makes money for an owner only when it's working.

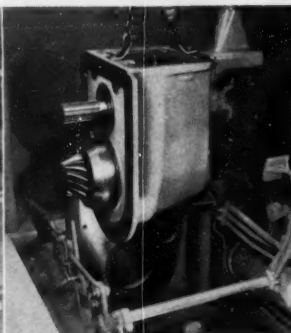
Simple unit assembly is another important reason why the HD-19 is low in total down time required for servicing and maintenance... why it is tops in output per day, per month, per season.



Engine can be removed without disassembling clutch.



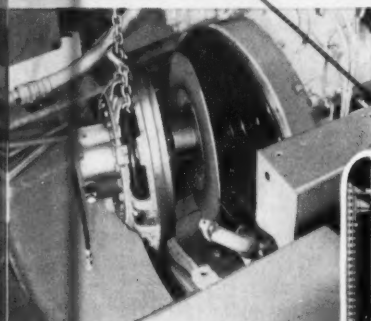
Torque converter can be removed without disturbing engine or transmission.



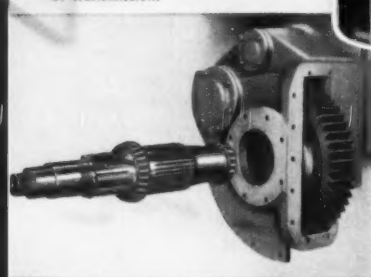
Transmission can be removed as a complete unit without removing clutch, final drive or bevel gear.



Each steering clutch can be removed independently and without disturbing final drive or bevel gear.



Clutch assembly can be removed without disturbing either engine or transmission.

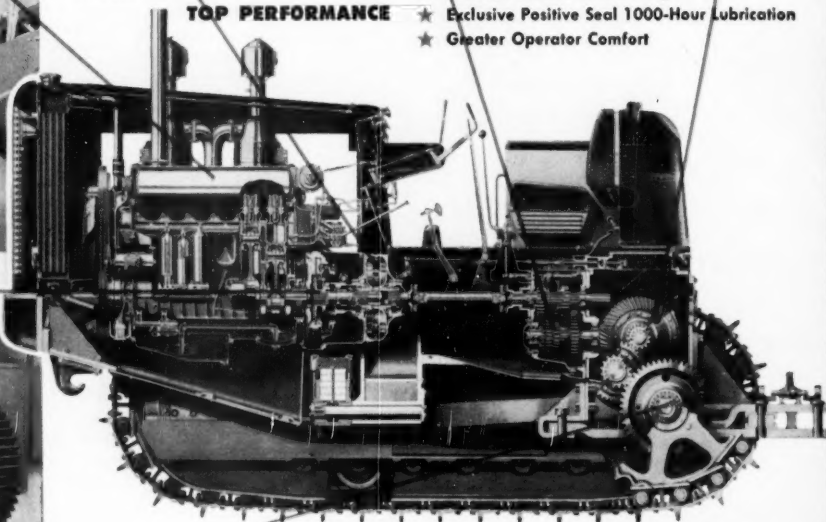


Final drive gear and intermediate gear can be removed without disturbing steering clutch.

MORE REASONS FOR HD-19

TOP PERFORMANCE

- ★ Torque Converter Drive
- ★ 40,000 lb. of Balanced Weight
- ★ Exclusive Positive Seal 1000-Hour Lubrication
- ★ Greater Operator Comfort



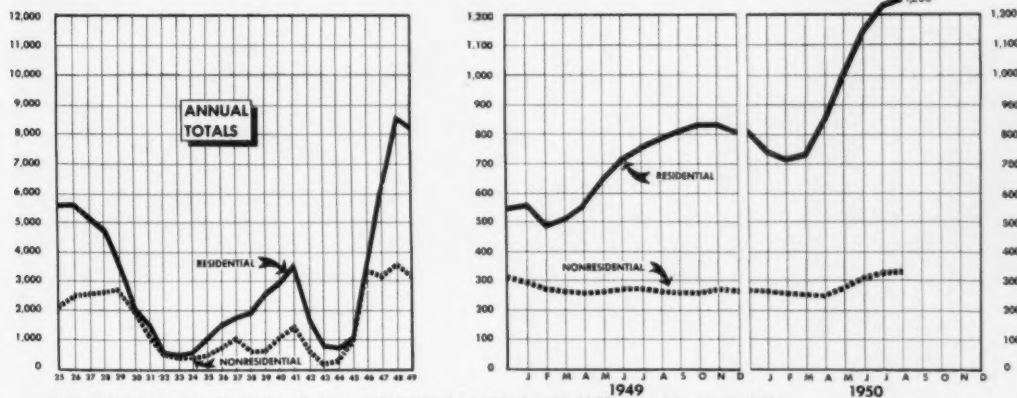
... For Greater Production
... For Easier Operation ... For Simplified Servicing

ALLIS-CHALMERS

TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

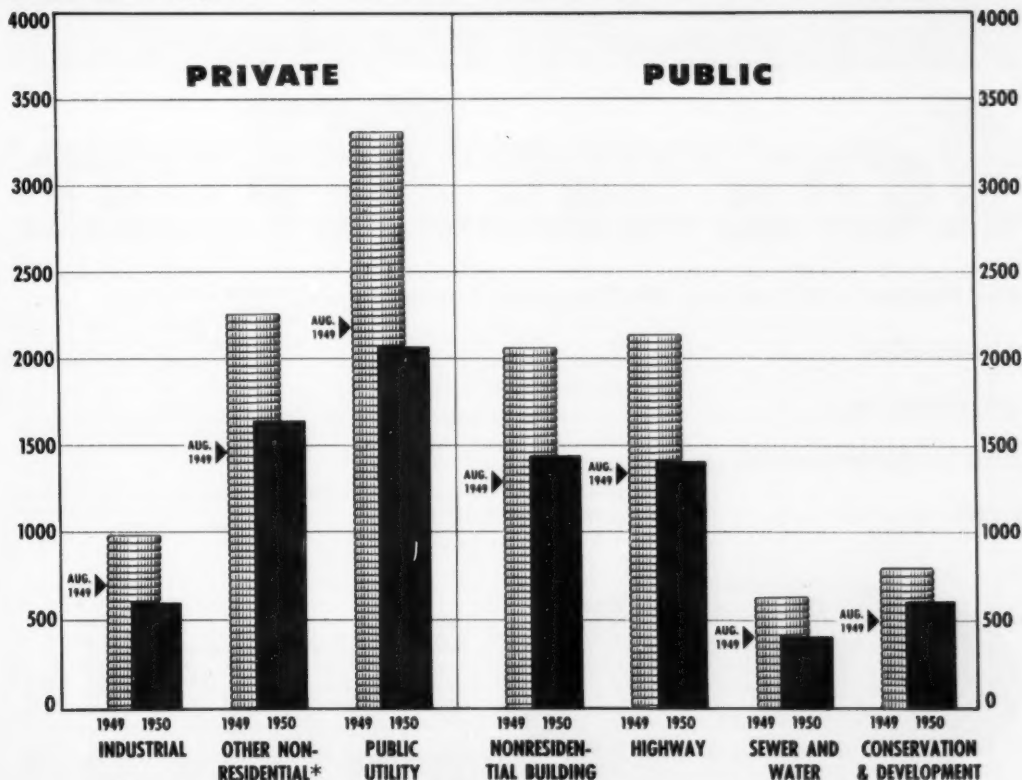
NEW CONSTRUCTION ACTIVITY

● Private Residential and Nonresidential Building* (MILLIONS OF DOLLARS)



* Residential excludes farm; Nonresidential includes industrial, commercial, institutional, and social and recreational building, but excludes public utility building.

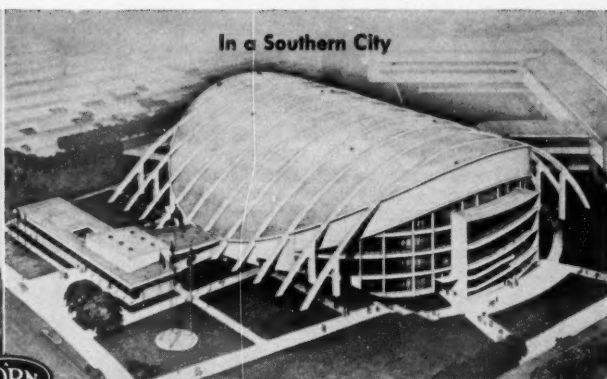
● Selected Types: (CUMULATIVE, MILLIONS OF DOLLARS) 1949 and 1950 VOLUME THROUGH AUGUST



*Includes commercial, institutional, and social and recreational building



At a Resort City



In a Southern City



On a Pacific Coast Public Utility

formfilm

**For Protective Coating of Plywood Forms
eliminates
oil staining
and reduces rubbing
costs**

**All Over America
Contractors Report**

- Increased speed of form handling
- Increased form use without recoating
- Increased life of forms
- Eliminates all disadvantages of oil or oil deposits on concrete

**Satisfied Users in
Salt Lake City say:**

ALFRED BROWN CO.—

"Rubbing costs reduced, grain raise eliminated."

OLSON CONSTRUCTION—

"More re-uses of forms especially on exposed concrete work."

The Coliseum shown above was designed by Sherlock, Smith & Adams Inc., of Montgomery, Ala., in collaboration with the New York Engineers Ammann & Whitney.

A. C. HORN COMPANY, INC.

Manufacturers of materials for building maintenance and construction—established in 1897
10th Street & 44th Avenue, Long Island City 1, N. Y.
Los Angeles • San Francisco • Houston • Chicago • Toronto
SUBSIDIARY OF SUN CHEMICAL CORPORATION

GENTLEMEN:

Please send me complete data on FORMFILM.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

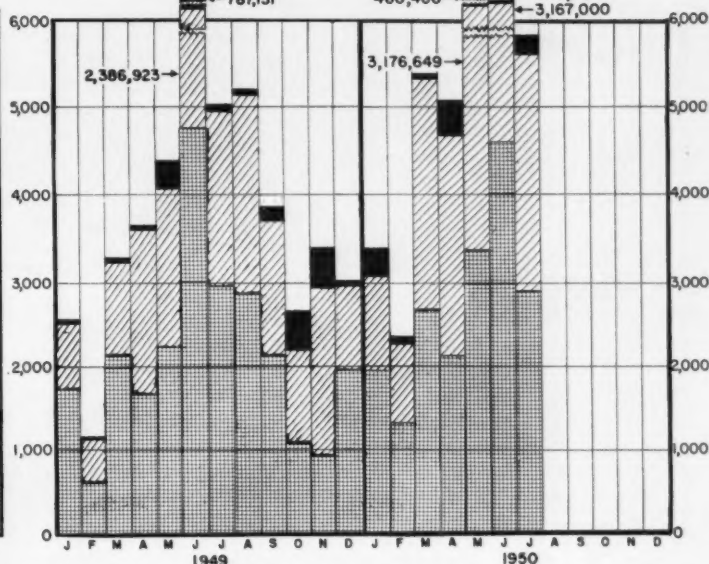
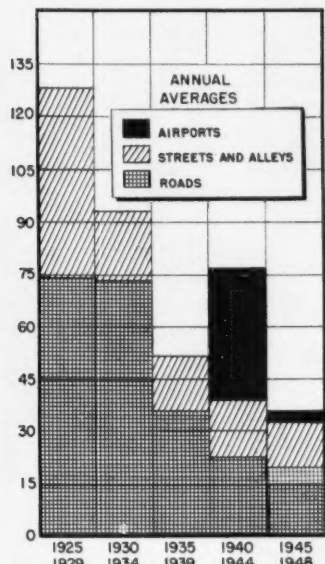
CITY _____ STATE _____

CS

Concrete Surface Pavement Awards

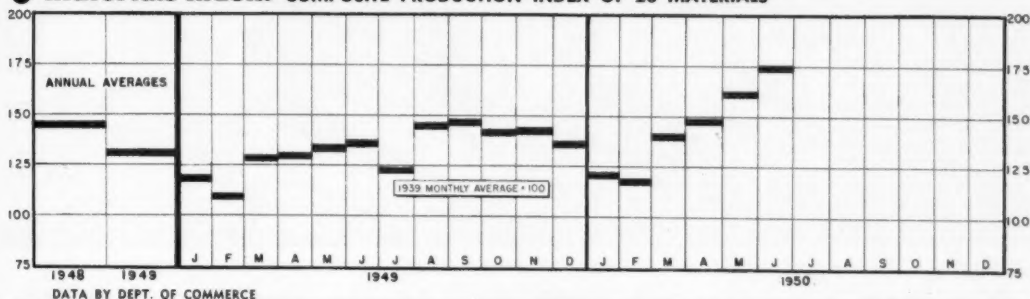
MILLIONS OF SQUARE YARDS

THOUSANDS OF SQUARE YARDS



DATA SUPPLIED BY PORTLAND CEMENT ASSOCIATION

Materials Index: COMPOSITE PRODUCTION INDEX OF 20 MATERIALS



DATA BY DEPT. OF COMMERCE

Contract Construction Employment (MILLIONS)



DATA BY BUREAU OF LABOR STATISTICS

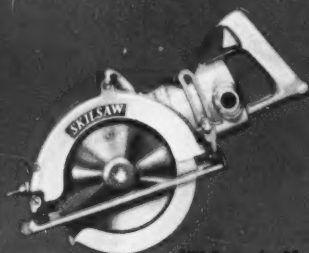
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the line
is easier
with
**SKIL
Saw”**



You can always see both the blade and the mark

SKIL Saw lets you see what you're doing . . . on every cut. There's no need to look around motor housings. There's no leaning over the saw to see what's going on. Your line of cut is always in plain view. You see the SKIL Saw blade as it cuts. You work in a normal, easy position.

Full visibility, perfect balance and extra power make SKIL Saw easier to use on any job. Tough, heavy-duty construction keeps SKIL Saw out of the shop, keeps SKIL Saw on the job. Ask your SKIL Tools Distributor for a demonstration of easy-handling, hard-working SKIL Saws today.



SKIL Saws—for 25 years the leading portable electric saw. Choose from 9 models with blade sizes from 6 to 12 inches.

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For Moderate Income Families in Large Cities

(Formerly referred to as the "Cost of Living Index," compiled by the Bureau of Labor Statistics)

THIS table indicates the average changes in retail prices of selected goods, rents and services bought by the average family of moderate income from May 15, 1948 to July 15, 1950.

They are presented here for use by employers who may wish to take these cost of living data into consideration when contemplating adjustments of wages based on increased living costs.

The Bureau of Labor Statistics surveys 10 key cities every month and 24 other large cities quarterly. Prices are obtained on food, fuel, apparel, house furnishings and miscellaneous goods and services. Rental information is obtained quarterly only for all cities. The computations are based on the indexes for the years 1935-39, which are taken as the average of 100 points.

	1948			1949			1950		
	MAY 15	JUNE 15	JULY 15	MAY 15	JUNE 15	JULY 15	MAY 15	JUNE 15	JULY 15
Average.....	170.5	171.7	173.7	169.2	169.6	168.5	168.6	170.2	172.5
Birmingham, Ala.....	173.7	174.7	177.0	171.4	172.1	171.0	169.0	171.1	175.7
Mobile, Ala.....		173.5			170.3			167.4	
Los Angeles, Calif.....	169.1	168.8	170.3	169.6	168.7	167.2	166.7	166.7	168.2
San Francisco, Calif.....		174.2			173.7			173.1	
Denver, Colo.....			172.5			167.8			169.5
Washington, D. C.....	166.7			165.3			165.2		
Jacksonville, Fla.....		178.3			174.9			176.7	
Atlanta, Ga.....	170.8			170.5			169.3		
Savannah, Ga.....			180.2			173.3			177.2
Chicago, Ill.....	174.9	176.2	178.6	174.2	175.9	173.9	175.3	176.4	179.2
Indianapolis, Ind.....			176.5			171.0			175.1
New Orleans, La.....	176.5			172.5			171.5		
Portland, Maine.....		167.4			165.8			164.5	
Baltimore, Md.....		176.1			174.2			174.3	
Boston, Mass.....	164.1	166.1	168.6	162.2	163.3	162.6	163.3	166.2	168.4
Detroit, Mich.....	173.2	174.5	175.9	171.6	172.0	170.4	171.4	174.2	176.2
Minneapolis, Minn.....		171.4			169.1			169.2	
Kansas City, Mo.....			166.3			162.1			166.1
St. Louis, Mo.....		172.1			169.8			169.7	
Manchester, N. H.....			178.1			170.0			173.1
Buffalo, N. Y.....			173.1			169.4			172.0
New York, N. Y.....	167.5	169.1	172.6	166.8	167.0	167.1	165.4	167.0	170.0
Cincinnati, Ohio.....	172.3	173.5	175.9	169.1	170.5	168.7	169.7	171.2	173.4
Cleveland, Ohio.....	173.7			171.5			170.1		
Portland, Ore.....			180.3			175.3			179.2
Philadelphia, Pa.....	170.4	172.1	172.9	169.9	169.2	167.5	167.1	169.7	171.5
Pittsburgh, Pa.....	173.5	175.7	177.8	172.9	173.1	171.9	172.0	173.4	174.9
Seranton, Pa.....	170.2			168.4			167.3		
Memphis, Tenn.....		174.7			173.5			169.9	
Houston, Texas.....	171.5	172.5	173.7	170.6	170.5	170.4	172.4	173.1	175.1
Norfolk, Va.....	171.9			170.3			170.9		
Richmond, Va.....			168.9			164.4			168.1
Seattle, Wash.....	174.3			172.5			171.8		
Milwaukee, Wis.....	171.1			169.3			170.9		



This is The Diesel

that changed the world's
power picture

ONE DIESEL—and one alone—blazed a trail which has won world-wide recognition for the oil-burning engine as the most economical source of smooth, dependable, agile power for locomotives, trucks, buses, marine and other mobile uses.

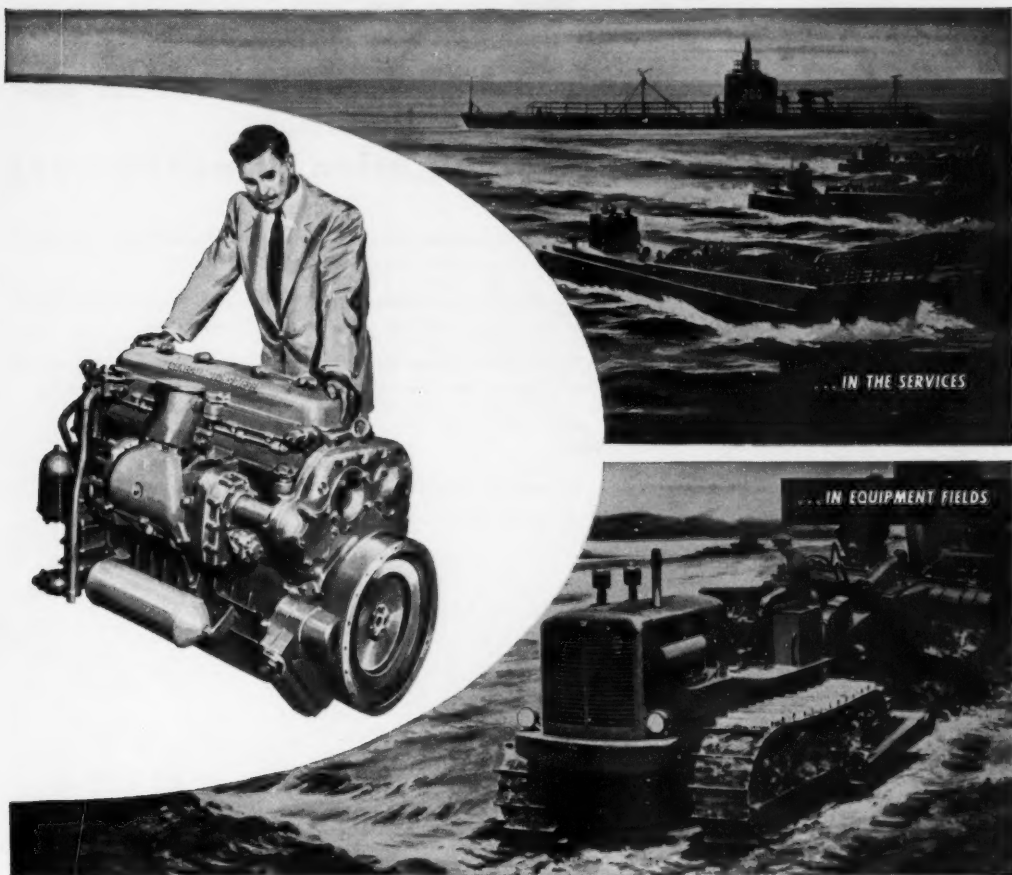
It is the General Motors Diesel engine, one size of which now drives most of America's crack passenger and freight trains. Another powers many of the Navy's submarines and other vessels.

And a third—the GM Series 71 engine—is the most widely used of all, totaling 46,000,000 horsepower. *It has surmounted the exacting conditions of War and met the economic requirements of Peace.* It has brought the same efficiency to a wide range of jobs, including many where Diesel power was never usable before.

That is because the "71," like all GM Diesels, is a two-cycle engine. Two-cycle means it produces power with every piston downstroke—in contrast to most other Diesels that generate power only on every second downstroke.

Equally important, GM Diesels have a direct jet-injection system that feeds fuel to cylinders in exactly metered charges—insuring better combustion and eliminating troublesome high-pressure fuel lines.

These basic differences make GM Diesels far more compact and much lighter than other Diesels of equal horsepower—without sacrificing ruggedness. These engines accelerate faster, are unmatched for smoothness, start quickly and are clean-burning.



"Your Key to  Power Economy"

Today, GM Series 71 Diesel engines are taking the place of gasoline engines on many types of power jobs — of steam engines on land and sea — even of other Diesels because twelve years' experience has proved they are so dependable, so efficient, so economical.

General Motors 2-cycle Series 71 engines provide Diesel power at its best — *Diesel brawn without the bulk.*

Hear Henry J. Taylor on the air every MONDAY evening over the ABC Network, coast to coast.

Only GM Diesels provide all these advantages

Smaller size, less weight per horsepower
Two-cycle smoothness, power on every downstroke
Quick starting, on its own fuel
Unit injectors—no high-pressure fuel lines
Rapid acceleration • Cleaner-burning
Better high-altitude performance
Easy accessibility

DETROIT DIESEL ENGINE DIVISION

SINGLE ENGINES . . . Up to 275 H.P.

DETROIT 28, MICHIGAN

MULTIPLE UNITS . . . Up to 800 H.P.

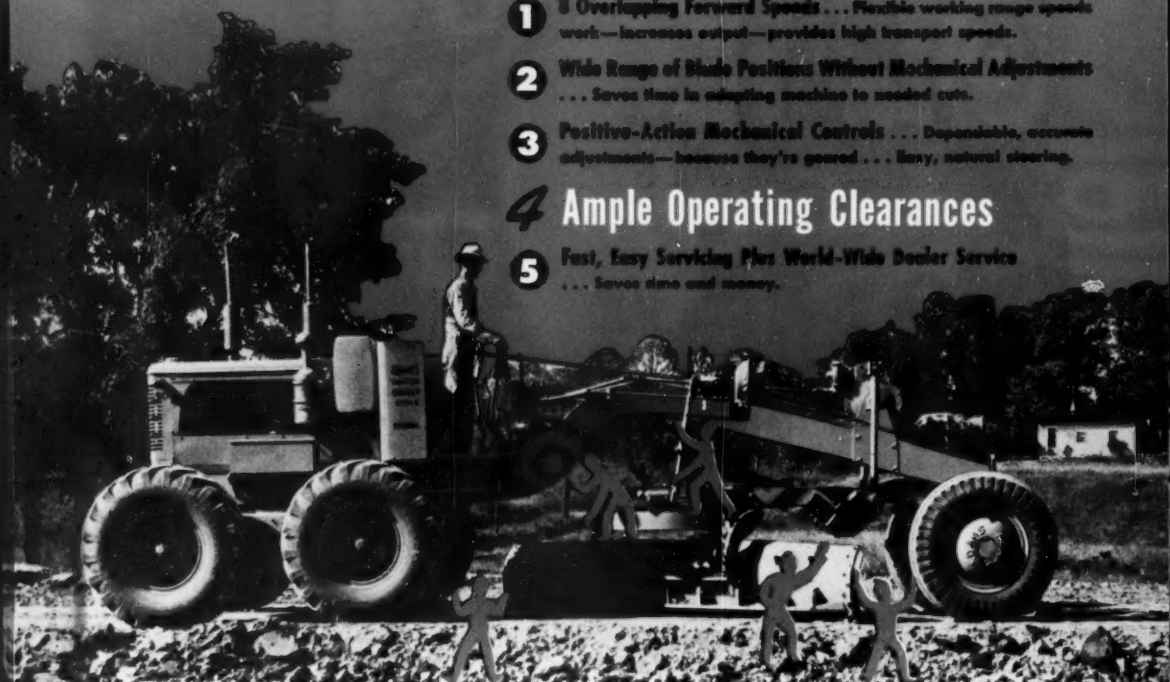
GENERAL MOTORS



Only Adams

gives you this exclusive combination of advantages

- 1 **8 Overlapping Forward Speeds** ... Flexible working range speeds work—increases output—provides high transport speeds.
- 2 **Wide Range of Blade Positions Without Mechanical Adjustments** ... Saves time in adapting machine to needed cuts.
- 3 **Positive-Action Mechanical Controls** ... Dependable, accurate adjustments—because they're geared ... Easy, natural steering.
- 4 **Ample Operating Clearances**
- 5 **Fast, Easy Servicing Plus World-Wide Dealer Service** ... Saves time and money.



Quick, easy adaptation to work...operator comfort, convenience, efficiency

Blade clearance—plenty of it, in the right places—is essential to fast, efficient blade positioning. That's why Adams Motor Graders are designed and built with an abundance of blade clearance at these critical points:

- **Between Blade Ends and Tires:** Lots of room here for sharp blade angles—without tire interference, front or rear.
- **Between Blade Heel and Frame:** Plenty of space provided for free movement.
- **Between Blade Assembly and Frame:** Adams arched frame permits higher blade lift—better clearances in coming out

of ditches and in getting over sharp-angle approaches to bridges and rail crossings.

- **Between Blade and Scarifier Block:** Ample room for easy reversing of blade under block.

This important feature means that all desired blade positions are obtained quickly, easily—one of the many reasons why Adams Graders are the fastest, smoothest, most accurate and efficient on the market.

J. D. ADAMS MANUFACTURING CO. • INDIANAPOLIS, INDIANA

*Make your next
motor grader an*

Adams

Sidelights for Contractors

By John C. Hayes, Legal Adviser

Taxes

Tax Legislation.—The need for additional funds for defense expenditures seems to have doomed any possibility of final enactment of the reductions in war excise taxes as proposed by the House of Representatives prior to the Korean conflict. Instead, it appears there will be heavy increases in income tax on all taxpayers, supplemented perhaps with an excess profits tax and renegotiation of corporations.

Retention of Tax Records.—In case of failure to file a tax return, the Internal Revenue Code permits assessment of the tax at any time. The statute of limitations is unavailable as a defense. Thus, it may be advisable for taxpayers to keep a record of their tax returns and payments for all prior years. For example, in a recent case before the Tax Court, the Commissioner of Internal Revenue in 1945 has assessed income tax deficiencies and penalties against a taxpayer for the years 1921 and 1922 on the assumption that no returns had ever been filed for these two years. While both the taxpayer's and the Commissioner's records for such years had been destroyed as obsolete, the taxpayer was able to prove the filing of returns for these years through the testimony of witnesses that such returns had been prepared and filed.

Statute of Limitations.—As a general rule, unless a false return or no return was filed, there is a three-year statute of limitation upon the time within which the Commissioner of Internal Revenue may assess a deficiency. However, the Tax Court points out that there is an exception to such rule, permitting the Commissioner five years to make an assessment in an instance where a taxpayer has omitted from gross income an amount properly includible therein which is in excess of 25 per cent of the amount of gross income stated.

State Income Tax.—A state income tax actually paid, the Tax Court states, is deductible for federal income tax purposes in the year paid or accrued, although part of such tax may be re-

funded in a subsequent year following reduction of the taxpayer's income by repayment of excessive profits in renegotiation.

Unidentified Payments.—Where state law required unidentified payments on a running account to be applied first to the earliest items in the account, a Circuit Court of Appeals has refused to allow a corporation on the accrual basis to deduct current expenses for rent, salary, and interest owed its controlling stockholder, because such amounts were not paid within the tax year or within two and one-half months thereafter.

Mortgage Settlement.—The Commissioner of Internal Revenue has published a ruling that a discount allowed upon settlement of a purchase money mortgage before maturity results in an ordinary loss to the mortgagee and in ordinary income to the mortgagor, in a case in which the mortgagor was fully able to pay and there was no decrease in value of the mortgaged property.

Tax on Transportation of Property.—While the issue is still disputed by the Government, another District Court has determined that the tax on transportation of property is not applicable to amounts paid by a contractor for the hire of trucks with drivers to move earth from a point in a tract being excavated for construction to a point in the same tract where it was needed for fill.

Public Contracts

War Contract Hardship Claims.—Following the President's veto on June 30th of H. R. 3436, a bill to amend the War Contractors Relief Act (see the July issue of THE CONSTRUCTOR, pages 31 and 32, for details), the Senate and the House of Representatives passed a substitute measure. The substitute measure, although revised to meet specifications outlined in the President's veto message, again was vetoed August 21. (Page 32.)

Directors' Fees.—Where directors' fees

were approved by the contracting officer as an item of expense and were determined to be fairly attributable to the contract services, the Comptroller General concluded that the contractor was entitled to reimbursement therefor under its cost plus fixed fee contract.

Renegotiation Award.—Despite the absence of any provision in the Renegotiation Act awarding interest on excessive profits, a Court of Appeals held that the Government's renegotiation claims are in the nature of debts rather than penalties and in equity should bear interest. The Court allowed the United States to collect interest at four per cent from the date on which the contractor, after proper notice, failed to make repayment.

State's Delay.—The Maryland Court of Appeals has held that a contractor may recover from the State of Maryland for increased costs of materials and labor resulting from the suspension of work on a hospital, due to the State's inability to obtain a required construction permit from the Civilian Production Administration. The State knew such a permit was essential and under the contract assumed the risk of getting it, the Court found.

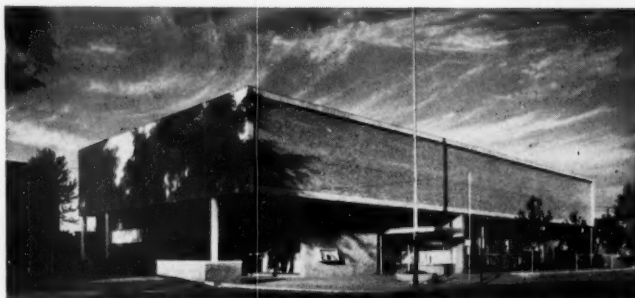
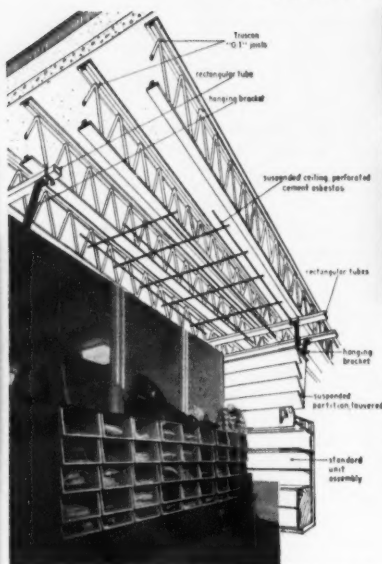
Price Adjustment.—In a recent case, where a contractor has increased costs due to delayed deliveries at higher prices, the Comptroller General denies the contractor's claim based on the contract's escalator clause, holding that the delays were not excusable under the terms of the contract. In so holding the Comptroller General overrules the contracting officer's granting of extensions of time for performance on the ground that he acted beyond the scope of his authority.

Delay.—A Government contractor is liable for damages caused by supplier's inability to make timely deliveries. The Comptroller General, in a recent decision, has held that the contractor's failure to make certain that the supplier could timely deliver precludes recovery on the ground that delay was due to unforeseeable causes beyond the contractor's control.



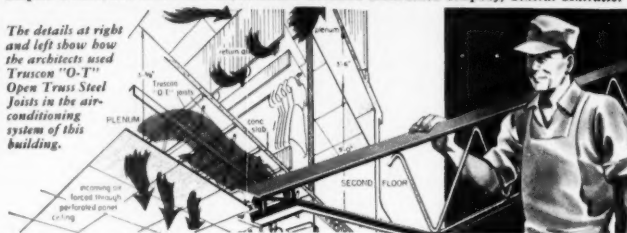
TRUSCON "O-T" Open Truss STEEL JOISTS

multiple purpose...



Halle Bros. Co. new Shaker Square store, Cleveland, Ohio, using Truscon "O-T" Steel Joists. Conrad, Hays, Simpson & Ruth, and Robert A. Little, Architects. Cleveland Construction Company, General Contractor

The details at right and left show how the architects used Truscon "O-T" Open Truss Steel Joists in the air-conditioning system of this building.



Space around "O-T" Joists is used as plenum chamber and faced with perforated panels.

One man handles "O-T" Joists.

for multiple economies

These strong, light joists are adaptable to all types of building construction . . . office buildings, industrial structures, schools, hospitals, apartments, residences, stores . . . bringing eight outstanding advantages to these structures. **LIGHT WEIGHT** permits quick, convenient handling and placement. **ECONOMICAL** through savings in supporting framework and foundations; speed of erection; insurance; maintenance. **PIPE AND CONDUIT** easily installed through open web. **FIRE-RESISTANT** because built of incombustible materials. **VERMIN RESISTANT** because steel is impregnable to insect and animal life. **RADIANT HEATING** possible through unobstructed flow of heat. **SOUND-RESISTANT** through dead air space and built-up materials. **ALL-WEATHER CONSTRUCTION** because these joists are not dependent on setting concrete. **FACTORY-MARKED** to fit construction plans. Write for free illustrated literature.



FREE Book on Truscon "O-T" Steel Joists. Write for it. The Truscon Steel Company Manufactures a Complete Line of Steel Windows and Mechanical Operators . . . Steel Joists . . . Metal Lath . . . Steel-deck Roofs . . . Reinforcing Steel . . . Industrial and Hangar Steel Doors . . . Bank Vault Reinforcing . . . Radio Towers . . . Bridge Floors.

TRUSCON STEEL COMPANY

Subsidiary of Republic Steel Corporation
YOUNGSTOWN 1, OHIO
Warehouses and sales offices in principal cities

A Controlled Economy

NEITHER the construction industry or other segments of the economy have yet felt the full impact of the war or the mobilization program.

When the President signs the Defense Production Act of 1950 some time the early part of this month he will have broad powers to control the economy which he will delegate to various government agencies.

When the authority has been given to the agencies, they can proceed with developing their various programs and put them into effect.

During the past few months the construction industry had been operating at such a high rate of activity that increasing shortages of materials, machinery and skilled manpower were developing.

After the invasion of Korea there was some tendency for owners to get projects under construction immediately before the imposition of restrictions on the start of new work. By the first of the month there were also some indications that this flurry was subsiding.

The industry, however, should face the possibility that there may be governmental action to curtail some kinds of construction activity not essential to defense or civilian needs.

As mobilization plans proceed, more defense construction projects will get under way. The general contracting industry will have more than ample capacity to execute the work with speed and efficiency.

When partial mobilization of the nation was ordered by the President, The Associated General Contractors of America took immediate action to give assistance to government agencies in the means of using general contracting organizations most effectively.

Its Committee on National Defense met in Washington with government executives. The committee is composed of the association's elected officers. Advisers and alternates are the Past Presidents since 1940 and other members of the Executive Committee.

General contractors and the association will do important work during the emergency. It is their conviction, however, that when the objectives have been accomplished and peace prevails, the governmental controls should be abolished promptly.

Importance of Highways

HIGHWAYS demonstrated their vital importance in American transportation during World War II. For that reason, due to the present international situation, road building should be accelerated instead of curtailed. It has a decided bearing on defense. Neglect at this time

will be keenly felt later when it becomes necessary to move machines and munitions. What then is the condition of our highways? Are they in a condition to deliver? The answer, we regret to say, is that current improvements are far behind the pace of deterioration.

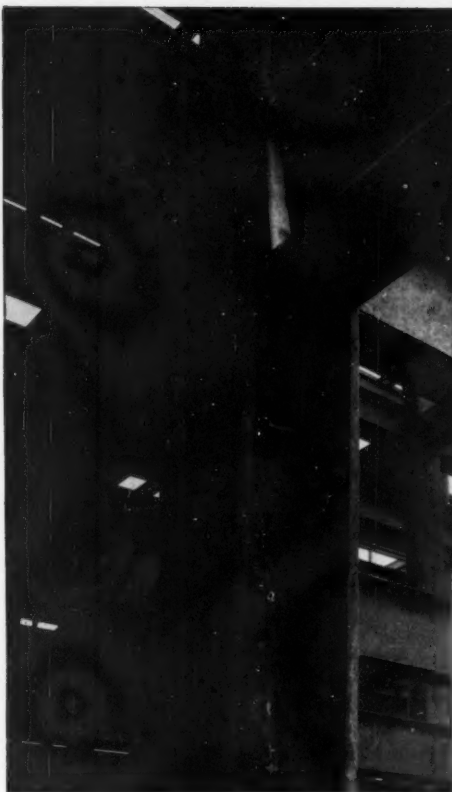
The heavy traffic of the war years and the lack of proper maintenance during that period were responsible for the deplorable condition of the roads at the beginning of the postwar era. That rehabilitation has not been carried out as it should have been may be seen in the findings of the Joint Committee for the Economic Report, of which Senator O'Mahoney was chairman. After a careful study of the nation's highway system, the report concluded it would require \$41 billion to modernize this transportation facility. That sum was predicated on a magic wand treatment which would accomplish the task overnight. If it required five years to do it, \$10 billion must be added to cover encroachment of obsolescence during the interval. In short, bringing our roads up to date would cost \$51 billion or \$10.1 billion a year and these are Congressional figures.

Congress has just passed the Federal Aid Highway Act covering the fiscal years 1952 and 1953. It provides the sum of \$500 million yearly for primary, secondary, and urban thoroughfares. On a 50-50 matching basis, this authorizes \$1 billion annually or less than 10 per cent of the amount the Joint Committee on the Economic Report says we should have.

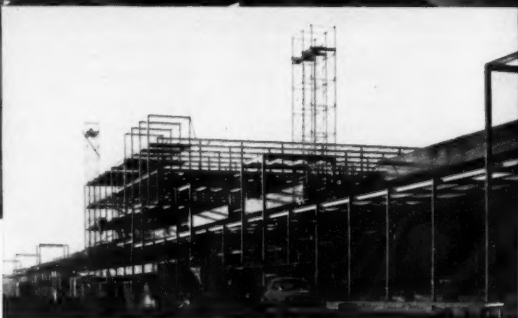
On the face of it, it might appear that Congress has been niggardly in appropriating for highway construction. But let us study the situation a little closer before we become critical. Federal funds are authorized on a matching basis with the states and it is to be deplored that some of the states have lacked aggressiveness in attempting to solve the vexing road problem. Congress can hardly be blamed for an absence of enthusiasm in appropriating towering amounts when some states fail to match the money already allocated to them.

Governors of the 48 states meeting last June at White Sulphur Springs, Virginia, (*THE CONSTRUCTOR*, July 1950) for the first time in history assumed an active role in meeting the highway situation. Traffic fatalities are given as one of the causes for this interest. But it should also be clear to the governors that faster, heavier and denser traffic is wearing out our roads at a faster rate than ever before. If we are going to have highways that will accommodate and stand up under 50 million motor vehicles, something quick and drastic must be done about it.

Next year 44 of the 48 state legislatures will be in session. With the newly aroused interest of the state governors, it is to be hoped that steps will be taken for each state to assume its full responsibility toward the highways of America.



When your new building plans
are in the formative stage . . .



This great plant of the Sunshine Biscuit Company, at Kansas City, Kansas, followed the Allied plan from blueprint to finished erection of 4,242 tons of fabricated structural steel.

Consultation with ALLIED

Pays Big Dividends

• The Allied staff takes over when you send your plans and specifications to us for estimating.

First, bids are submitted for your work. Then, when awarded the job, work starts on structural units, according to your plans and specifications, in one of Allied's plants. Here unified control and modern equipment speed your job through without a bottleneck. Finally, "on location," the erection crew proceeds to button up structural steel on the due date.

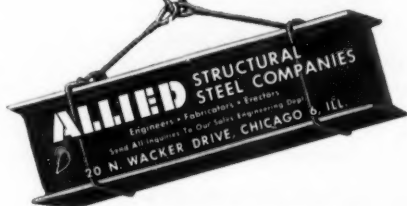
It's a well-synchronized plan of fabrication and erection. Built on efficient scheduling, a maximum use of materials and men. Ask Allied about it. It pays dividends in time and money.

**3 PLANTS WORKING AS ONE HUGE OPERATION TO GET
YOUR STRUCTURAL STEEL FABRICATED AND ERECTED**

Clinton Bridge Corporation

Affiliates
Gage Structural Steel Corporation

Midland Structural Steel Corporation



(SEND ALL INQUIRIES TO ABOVE ADDRESS)

» **INCREASED SHORTAGES** of materials, machinery, and skilled workmen have developed during the past two months as the construction industry has hit the peak of operations at the site in the year of the greatest volume of activity in history.

As scarcities of building materials and machinery have developed, price increases have been general, with the sharpest rises for lumber. There has been pressure for increases of wage rates.

There are expectations of a continued large volume of construction for the balance of the year.

These are highlights of a survey of conditions in the construction industry conducted by The Associated General Contractors of America for study at the Mid-Year Meeting of its Governing and Advisory Boards to be held at the Lookout Mountain Hotel, Chattanooga, Tennessee, September 11-13, 1950.

The survey was conducted among the association's 112 local affiliated organizations and among its directors throughout the United States and Alaska, representing more than 5,600 of the nation's leading general contracting firms.

The association represents general contractors engaged in construction of industrial, commercial, institutional and large-scale housing projects; highways, airports, public utilities, dams, pipelines, and other types of heavy engineering construction.

1950 Construction Volume

Latest reports of the U. S. Commerce and Labor Departments estimate that \$17.2 billion in new construction has been put in place the first eight months of the year. In July the unprecedented total of \$2.6 billion was put in place. Earlier estimates were that \$26 billion in new construction would be reached this year.

Tabulations of Replies

Replies to major points in the survey, which represent the opinions of hundreds of general contractors consulted by chapter and branch executives and by directors, follow.

Materials: 95 per cent reported shortages. Five per cent reported no shortages. Of those reporting, 63 per cent mentioned steel; 57 per cent mentioned cement; and 37 per cent mentioned lumber.

The majority of replies stated that increasingly longer delivery dates

were being given, or no delivery time would be promised. A few items of building materials were mentioned as impossible to secure.

Where reasons were cited for shortages, the following were mentioned: strikes in producing industries, shortages of railroad cars for transportation, inability of the industry to produce sufficient quantities for the tremendous construction volume, and scare buying.

Materials prices: 89 per cent reported materials price increases. 11 per cent reported no increases. Largest increases were reported for lumber prices. Some reported it harder to secure firm prices. A few suggested that gray markets may be developing.

Equipment: 49 per cent reported shortages. 51 per cent reported no shortages. Shortages were reported principally for heavy duty machines. Some reported longer delivery dates. A few suggestions were made that there was scare buying.

Equipment prices: 73 per cent reported price increases. 27 per cent reported no increases.

Labor: 68 per cent reported shortages of skilled workmen. 32 per cent reported no shortages.

Wage trends: 78 per cent reported pressure for increase in wage rates. 22 per cent reported no increases. Some with wage agreements in effect reported the expectation of demands for increase upon their expiration. Some suggested efforts were being made to secure increases before controls were instituted.

Volume: 38 per cent reported that more projects were coming on the market now. 41 per cent reported the volume of new work was about even with what it has been. 21 per cent reported a downward trend.

Some reported that projects were being rushed into construction ahead of possible controls. Others reported projects were being held back because of possible future difficulties in securing materials if allocation programs were put into effect.

Shortages Increase as Industry Hits Peak of Greatest Activity

- Materials, Machinery, Workmen Are Scarcer
- Prices Rise, Sharpest Increases on Lumber
- Large Volume Outlook in Latest A.G.C. Survey

Building Construction

For building construction, the replies were as follows:

Materials: 97 per cent reported shortages; 3 per cent, none. 67 per cent reported steel shortages; 53 per cent, cement; 45 per cent, lumber.

Materials prices: 94 per cent reported increases; 6 per cent, none.

Equipment: 42 per cent reported shortages; 58 per cent, none.

Equipment prices: 68 per cent reported increases; 32 per cent, none.

Labor: 78 per cent reported shortages; 22 per cent reported none.

Wage trends: 77 per cent reported upward; 23 per cent, stable.

Volume: 48 per cent reported more work; 36 per cent, even; 16 per cent, down.

Highway Construction

For highway construction, the replies were as follows:

Materials: 99 per cent reported shortages; 1 per cent, none. 55 per cent reported steel shortages; 55 per cent, cement; 21 per cent, lumber.

Materials prices: 81 per cent reported increases; 19 per cent, none.

Equipment: 55 per cent reported shortages; 45 per cent, none.

Equipment prices: 83 per cent reported increases; 17 per cent, none.

Labor: 56 per cent reported shortages; 44 per cent, none.

Wage trends: 87 per cent reported upward; 13 per cent, stable.

Volume: 77 per cent reported more work; 32 per cent, even; 51 per cent, down.

Heavy Construction

For heavy construction, the replies were as follows:

Materials: 100 per cent reported shortages. 47 per cent reported steel shortages; 59 per cent, cement; 30 per cent, lumber.

Materials prices: 86 per cent reported increases; 14 per cent, none.

Equipment: 56 per cent reported shortages; 44 per cent, none.

Equipment prices: 67 per cent re-

ported increases; 33 per cent, none. Labor: 59 per cent reported shortages; 41 per cent, none.

Wage trends: 65 per cent upward; 35 per cent, stable.

Volume: 53 per cent reported more work; 12 per cent, even; 35 per cent, down.

Conditions Earlier

In mid-June the association made a somewhat similar survey of industry conditions. At that time only 53 per cent reported shortages of materials, only 41 per cent reported shortages of skilled workmen, and only 58 per cent reported increases in materials prices or wage rates.

Intense competition between general contractors for new work coming on the market was the highlight of conditions in the industry revealed by the survey in June, and one which had been made in February.

The stabilization of construction costs at approximately ten per cent below postwar peaks was the highlight of conditions shown by a survey which was conducted in August 1949.

Typical Comments

"At the present time, there has been no shortage in equipment, but it is getting a little tight. There is no shortage of lumber but prices are almost prohibitive. The market is so brisk, they (the lumbermen) can sell everything they cut at any price they ask."—Mountain building-heavy contractor.

"The shortage of lumber production and the increased price is due to a large degree to the fact that the largest supplier in the area had a strike for 90 days. The shortage created by this strike cannot possibly be made up for many months."—Pacific chapter, all types.

"The construction market has leveled off a little in this territory. We are very well satisfied with the trend as we are pretty well loaded up with work for the rest of the year."—Pacific chapter, all types.

"No appreciable amount of slackening has arisen in either building or engineering type construction. Some softening of private work, but this slack has been more than taken up by additional public works coming on the market, such as schools, institutions, superhighways and freeway systems. Construction at a high peak with no indication of a letdown in sight."—Pacific chapter, all types.

"Shortage and increase in price of

practically all types of building materials. . . . I expect curtailment in both private and public work."—Mountain highway contractor.

"Shortages have not slowed construction progress at this time. . . . Many projects on drawing boards for two years have been put out for bids in past six weeks. Tendency is to get work under contract and started before restrictions and priorities are placed on construction."—West South Central heavy contractor.

"There is a decided shortage in lumber, cement and steel. Trend of prices on these items is up. Equipment is scarce and prices stiffening. The only definite labor scarcity is in the trowel trades."—West South Central building contractor.

"Inadequate Highway Financing"

"Tendency for more work to come on the market except highway construction which will be greatly reduced below the previous two years due to inadequate financing."—West North Central highway-heavy chapter.

"There is a seasonal slack in our lettings but the outlook for work to come on the market is greater for the next year than in 1950. Work for the balance of this construction season will be better than normal."—West North Central chapter, all types.

"There seems to be a great deal of work contemplated, both public and private, and as yet there has been no indication of holding up work due to

the international situation."—South Atlantic building-highway contractor.

"Delivery on equipment very slow. Orders placed now require two to three months for delivery. Prices up from eight to 12 per cent. . . . There is an extreme shortage of bricklayers, lathers, plasterers, carpenters and hoisting engineers."—East North Central building contractor.

"Flood of Work"

"A flood of work has been put on the market in the past two months and there is, as yet, no let up. Much of this work would come on the market within the next year or two; but due to the war situation, has been accelerated."—East North Central contractor, all types.

"There appears to be a general rush to start jobs so as to be clear of possible future control. We believe this to be temporary."—East South Central builders chapter.

"The international situation has caused many potential owners to back up."—East South Central highway-heavy contractor.

"Concrete, masonry and plastering materials are very critical. Wage trends definitely on the rise. More work coming on the market."—South Atlantic chapter, all types.

"There seems to be a general rush to get work under contract, apparently due to the Korean situation."—South Atlantic highway-heavy chapter.

Construction Soars to New Peak in August

• New Work Estimated at \$17.2 Billion in Eight Months

» THE MONTH of August registered an unprecedented total of \$2,730,000,000 in new construction put in place, bringing the eight-month total for this year to \$17.2 billion, according to preliminary estimates of the Department of Commerce and Labor.

20 Per Cent Over 1949

The August figure was 24 per cent ahead of the same month last year, and the eight-month total was 20 per cent over the same 1949 period.

All major segments of construction registered increases over 1949 with the exceptions of public utilities and farm activity.

Total private, at \$12,834,000,000, is

25 per cent ahead of 1949, with non-residential building a slight four per cent above last year. Total public construction is nine per cent ahead of 1949 with \$4,350,000,000 put in place, and highway activity shows a five per cent increase at \$1,410,000,000.

Private residential construction stands at \$7,686,000,000 for the first eight months. Construction of new industrial plants also is continuing to expand, along with commercial construction.

The "most significant" increases in public construction this year, according to the agencies, were in highways, educational buildings, and conservation and development work.

ON THE HEELS of the President's directive to reexamine federal public works programs in the light of national defense needs, the major government agencies supervising construction programs last month set in motion criteria for new projects.

*Construction May Figure in Appropriation Cuts
—Page 30*

Final Highway Authorization Reduced—Page 32

Generally, the actions taken are expected to effect mostly those projects for which contracts have not yet been awarded.

The Army Chief of Engineers announced that no new contracts will be awarded without the direct approval of the Chief's office, and that the Division and District engineers and the Chief's office will make a complete reexamination of all projects of the Corps of Engineers to assure that they are being performed in accordance with the provisions set forth in the President's directive.

(The President asked that all civil public works, both direct federal programs and grants-in-aid programs be screened for the purpose of deferring, curtailing, or slowing down, as far as practical, those projects which do not directly contribute to defense or civilian requirements essential in the changed international situation. August CONSTRUCTOR, page 23.)

Corps of Engineers Criteria

"Tentative criteria" for review of the civil public works program of the Corps of Engineers in accordance with the President's letter, as quoted in the report of the Congressional conferees committee on the general appropriation bill, are as follows:

"The civil works program of the Corps of Engineers will be reviewed to insure that no new projects are initiated unless they make an important contribution to the war effort and that only those projects now under construction which meet one or more of the following specific criteria will be continued during the period of partial mobilization.

SPECIFIC CRITERIA

"1. The project includes the development of power.

"2. The project provides industrial or municipal water supply in critical areas.

"3. The project is a dam and reservoir project where closure is

Federal Agencies Reexamining Programs at President's Behest

- Interior, Engineers Establish Project Criteria
- Power Important Factor for Green Light
- Only Unadvertised Highway Projects Studied

under way or has been effected and should be completed to a point of useful operation.

"4. The project is an important harbor or waterway.

"5. The project protects important industries or major food-producing areas.

"6. The project can be completed in the 1951 working season, and where termination costs would constitute an appreciable economic loss, the work in place would be damaged if not protected and if relatively small amounts of additional work will make the project fully effective.

"7. The project involves almost entirely the movement of earth such as channel improvements or levees and does not compete in the use of critical materials.

"8. Maintenance of completed projects, advance planning of selected authorized projects and the survey program should be continued.

"With respect to those projects that meet the above criteria for continuation of construction, each individual feature of the project will be examined to determine whether it can be deferred without detriment to the major purpose of the project or to the work in place."

Congress Adds Its Criteria

The Congressional conference committee on the general appropriation bill, in addition to endorsing the President's letter and the Army's criteria, "agreed that no construction or planning of any new project appropriated for . . . shall be started unless certified by the President as necessary to the war effort and amounts allowed for construction here-in shall be available for reallocation to any project appropriated for in this chapter as the Corps of Engineers find necessary to meet the exigencies of the war effort and to maintain economical construction schedules."

The Secretary of the Interior ordered an immediate review of that department's construction programs, and announced the following criteria for water and power projects:

Interior Department Criteria

"1. Because of direct connection with national security, work will be continued undiminished on all power construction (excepting where the contemplated power production is purely incidental to other functions and of such small amount as to be unimportant in the current emergency).

"2. Because of their importance to national security, work will be continued on projects for municipal and industrial water supplies.

"3. Because they require little material and manpower and because their interruption would so add to cost to render them infeasible, all small projects that can be completed in this (the 1950) and the next working season will be continued.

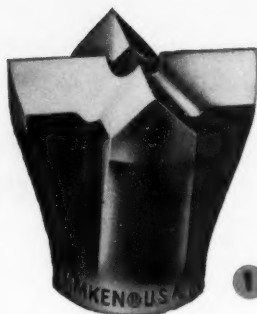
"4. Because the contribution to the national security exceeds the cost in materials and men, that part of the work on any project which will provide water for irrigation in the two-year period (by the close of the 1952 fiscal year) will be continued.

"5. Because of special circumstances and conditions that cannot now be anticipated, any other authorized work for which funds are available will be done provided the specific work is individually justified and approved. The justification shall be a measurable, desirable, and reasonable timely contribution to economic development or food production required in the emergency.

"6. General investigations will proceed because of their importance to the national security.

"7. Operation and maintenance programs will proceed because they

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"All other work will be dropped from the program for 1951 fiscal year and will not be resumed until warranted by changed conditions. Estimates for this work will not be included in the 1952 budget estimates. Where such work has not been placed under contract, it will now be indefinitely postponed. Where all or parts of it have been placed under contract, the work will be terminated in an orderly manner designed to protect the Government's investment and funds."

The Bureau of Public Roads requested all state highway departments to assist in reexamining only those work programs which have not yet been advertised for contract.

"The immediate objective of the study," said the BPR, "is to identify projects in the program which directly contribute to defense or to civilian requirements essential in the changed international situation."

"Highway improvement projects on the national system of interstate highways and important projects on the federal aid primary, urban and secondary systems are recognized as contributing directly to the national defense, and therefore are worthy of high priority consideration. Also of recognized essentiality are all highway maintenance activities."

The Navy's Bureau of Yards and Docks is not expected to institute any curtailments or changes, since its construction work is so closely related to national defense.

Veterans Administrator Gray announced, after a conversation with President Truman, that the hospital program will not be affected.

Urges Filing of B.C.I. Forms

W. D. Dean, general manager of the Bureau of Contract Information, Inc., 105 Tower Building, Washington 5, D. C., has issued the following:

In the last war B.C.I. reports were the principal independent source of verified information available to defense officials regarding capacity and contract performance of constructors.

Established contractors who have not supplied performance data within the past 12 months are urged to obtain B.C.I. forms and complete them promptly, accurately and fully so that its files shall be in the best possible condition to meet any emergency.

FCC Radio Rules Revision Draws Protest

• Proposal Would Hinder Contractors Using Two-Way Units

CHANGES in the rules governing industrial radio service which would materially affect the use of two-way radio on construction projects are proposed by the Federal Communications Commission. These changes are being opposed by the Associated General Contractors of America which has pioneered in the employment of this fast and efficient means of coordinating various phases of work on big jobs.

H. E. Foreman, A.G.C.'s managing director, in a letter to the FCC dated August 10, 1950, points out that the limitation of base station power to 120 watt input would work a decided hardship on many general contractors now using 150 to 500 watt input power. These contractors hold special industrial licenses covering moveable base stations as well as permanent base stations. More power than the proposed allotment is necessary in order to cover the far-flung construction operations, he maintained.

"The various other limitations (proposed in FCC Docket 9703, released June 22, 1950) with reference to intercommunication, availability of wire lines, etc., all serve to restrict the contractor's use of radio service. The proposed addition prohibiting communication between points within cities and defining such population centers as consisting of more than 2,500 persons destroys the useful value of radio service to contractors operating therein," declared Mr. Foreman.

Separate Status Asked

The communication closed with the petition that the construction industry be accorded a separate status similar to Forestry Conservation, Highway Maintenance and Emergency Radio Service.

Since parties opposing the adoption of the changes had been given until August 15 to file objections, the Federal Communications Commission announced at press time that the matter was still under consideration.

THE CONSTRUCTOR for January 1950 carried an extended story describing the effective application of radio communication in the building of the O'Sullivan Dam and other large projects by the C. F. Lytle Company, Sioux City, Iowa, Amis Construction Company, Oklahoma City, Oklahoma,

and the Green Construction Company, Des Moines, Iowa, all A.G.C. These firms report that they found radio so invaluable that they expect to use it on all jobs where fast and easy communication between units is required.

Procedure for Station

In order to obtain permission from the FCC to construct a station, an application pointing out the necessity for radio communication on the project such as the wide area to be covered, the lack of other suitable communication systems, and the protection of life and property is required.

After FCC has approved the application, a construction permit and call letters are issued. The regular FCC operating license is issued when the station and units are installed and in operation according to the construction permit. The stations are monitored frequently and weekly frequency tests are made and logged. All persons using the main station and mobile units must have licenses as third-class radio operators.

Brick, Tile Output Up

Production of brick and tile in the first six months of 1950 ran four to five percent higher than in the peak post-war year of 1948, according to W. J. Goodwin, Jr., President of the Structural Clay Products Institute.

"Output of brick was seven and a half percent above the first half of 1949, and nearly five percent over the same period in 1948," Mr. Goodwin stated.

"During the month of June, 1950, 570 million brick were turned out. This is the second highest monthly total in the post-war period. The monthly high was set in October, 1948, with 581 million brick.

"Structural clay tile produced thus far in 1950 totalled 624,000 tons, a dip of five percent from last year, but higher than in 1948 by four percent.

"Shipments of structural clay products to construction sites continue heavy. Despite sizable building demand, supplies are adequate in most localities. Builders are counselled to order in advance to assure deliveries on schedule."

Controls Granted President Resemble Those of Last War

- Real Estate Credit Control Exception
- Truman Has Discretionary Authority

» THE CONGRESS in late August was completing action on the Defense Production Act of 1950 so that it would be on the President's desk for approval early in September.

Although there were important differences in details between House and Senate versions of the bill, both followed the same broad pattern of giving the President authority to run the nation's economy.

The Senate had placed some restrictions on the President's authority in the fields of price and wage controls, production loans, and priorities and allocations of scarce materials. At press time it was not determined whether or not these limitations would remain.

When in effect, the legislation will give the President broad powers for priorities and allocations, requisitioning, expansion of productive facilities and supplies, price and wage stabilization, and control of consumer and real estate credit. Control of real estate credit will be used as one means of controlling the start of new construction.

Generally, the bill will give the President the discretion of how much of the authority is used, when various programs are put into effect, and which agencies shall administer the various controls.

With the exception of the section on the control of real estate credit as a means of controlling new construction, the authority granted to the President is similar to that in effect during World War II.

Priorities, Allocations

The President will have practically unlimited authority for establishing priorities and allocations systems, and to requisition equipment, supplies, materials or facilities needed to "promote the national defense."

The priorities and allocations authority probably will be delegated to the Commerce Department, whether or not this is ultimately mandatory by the law.

The Senate restored to the bill a section deleted by the House to empower the President to establish "such

principles and procedures and to take such actions as he deems appropriate" toward settlement of labor disputes affecting national defense.

Wages and Prices

The bill authorizes the President first to promote voluntary action by business, agriculture, labor and consumers to hold prices and wages down,

and to exempt them from prosecution for violation of antitrust laws. If these methods fail, he is empowered to institute price, wage, and salary controls.

In fixing wage and price ceilings, the President would have to give consideration to levels of May 24 to June 24, 1950. Wages could not be stabilized below that level.

Agreement was being sought in the controversy which had been started when the Senate eliminated the President's discretion for "selective" price and wage controls and would require him to control wages and prices generally if he controlled them at all, and also require wage controls when price controls were imposed.

Controls Provided on New Construction

- Real Estate Credit Restrictive Authority Granted

» AUTHORITY to control the start of new construction through real estate credit restrictions will be granted to the government when the Defense Production Act of 1950 becomes law.

Sections of the bill as passed by both the House and Senate would authorize the President, probably through the Federal Reserve Board, to issue rules and regulations restricting credit for all kinds of privately financed new construction, additions or reconstruction.

In effect this authority would be a substitute for the War Production Board Order L-41 of World War II which limited the start of new construction. The intent is clearly set forth in the report of the Senate Banking and Currency Committee:

"Even more important than the need for avoiding inflation¹ is the necessity for curtailing construction which takes materials and labor needed for military production. The construction industry is an important consumer of steel and other materials in short supply. It employs hundreds of thousands of skilled workers now in great demand.

"Curtailed construction will result in the curtailment of demand for the great variety of commodities needed to furnish and equip new building, e.g., house furnishings, furniture, and equipment. 'Construction as usual' would greatly impede the acceleration of our defense output, the immediate objective of our nation.

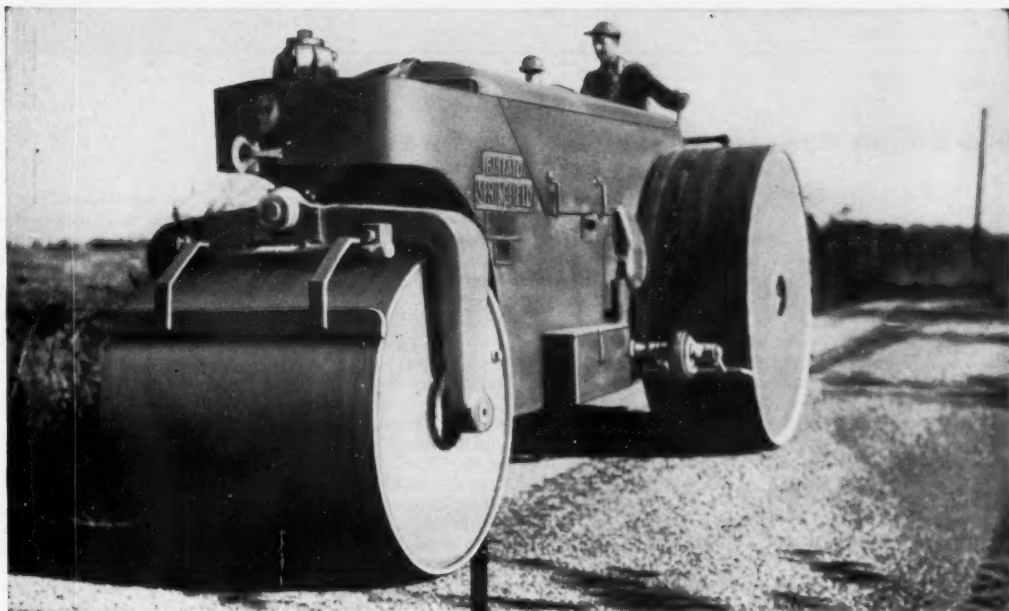
"Real estate investment by its nature is usually accomplished by extensive use of long-term borrowed money. It is therefore an activity peculiarly sensitive to credit restrictions.

"Furthermore, control of credit as a device for controlling construction is more easily administered than direct limitations, priorities, and allocations. Credit control does not require elaborate administrative machinery and procedures onerous to both the government and the public. While more direct controls may prove necessary if a drastic curtailment is required, as a practical matter they cannot be so quickly applied."

The definition of the bill is:

"'Real estate construction credit' means any credit . . . which is (1) wholly or partially secured by, (2) is for the purpose of purchasing or carrying, (3) is for the purpose of financing, or (4) involves the right to acquire or use new construction on real property or real property on which there is new construction."

Construction begun after August 3, 1950 could be controlled under terms of the bill. The Senate committee report outlines Congressional intent on the meaning of the word "begun." Generally, it means after materials which are an integral part of the structure are incorporated at the site. Demolition and site preparation would not be considered as beginning construction.



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\$36 Billion Appropriation Passes Congress

• But \$550 Million Directed to Be Lopped from Total

THE \$36 BILLION general appropriations bill was passed and sent to the White House August 28 after months of wrangling on the floors of both Houses, in committees, and finally, in the committee of conferees which adjusted most of the differences between the Senate and House versions.

Federal agencies had been operating on last year's level of expenditures while awaiting approval of the omnibus bill which provides funds for the fiscal year begun on July 1.

Strings were tied onto the bill as finally passed, requiring the President to lop off \$550 million from the overall figure, and representatives from the various federal agencies were in session early this month at the Bureau of the Budget to argue out where the cuts could best be made. Washington newspapers mentioned public works projects as prominent targets in the discussions.

Force Account Limitation

The bill contains a provision limiting force account work by the Bureau of Reclamation to 12 per cent of the allotment by the Bureau for any project, except that up to \$225,000 may be so spent on any one project or Missouri Basin unit when unsuitable for contract or when excessive bids are received; and except in cases of emergencies. The Bonneville Power Administration also is limited.

Major appropriations for construction, including funds for liquidation of prior contract authority, are:

Department of State

\$3 million for construction by the International Boundary and Water Commission, U. S. and Mexico.

Department of Commerce

Civil Aeronautics Administration: \$27.5 million appropriation and \$16 million contract authority for establishment of air-navigation facilities, and \$37 million for projects under the federal aid airport program.

Bureau of Public Roads: \$385 million for federal aid postwar highways, \$4.6 million for elimination of grade crossings, \$22.5 million for forest highways, and \$70,000 for access roads.

National Bureau of Standards: \$5,675,000 for construction and equipment of laboratories.

Treasury Department

Coast Guard: \$17 million for acquisition, construction and improvements.

Federal Security Agency

Public Health Service: \$100 million for liquidation of contractual obligations in the federal aid hospital program; \$15,125,000 for construction of research facilities.

St. Elizabeth's Hospital: Provision of \$5,588,000 in appropriations and contract authority for construction and equipment of treatment building.

Department of Agriculture

Forest Service: \$10,348,000 for forest development roads and trails.

Flood Control: \$10,315,000, a compromise figure between versions of the two Houses.

Soil Conservation Service: \$52.4 million.

Rural Electrification Administration: \$350 million to be borrowed from the Treasury for loans carrying out the rural electrification program, with the provision that up to \$150 million additional can be borrowed; and authorizes \$32.5 million to be borrowed for the rural telephone program.

Farmers' Home Administration: Authorizes \$65 million for farm tenancy and housing loans, added to a \$7 million carry-over from 1950 for farm housing loans.

Department of the Interior

Southwestern Power Administration: \$8,620,000 appropriation and \$1,730,000 contract authority.

Bonneville Power Administration: \$39.5 million appropriation and \$20 million contract authority.

Bureau of Indian Affairs: \$23,272,651 cash and \$3.5 million contract authority for miscellaneous work.

Bureau of Reclamation: \$5,875,000 for general investigations, and \$295,828,000 cash and \$3 million contract authority for construction and rehabilitation.

National Park Service: \$19,667,000. *Territories and Island Possessions:* \$20.4 million for Alaskan roads, and \$30 million cash and \$8 million contract authority for Alaska Railroad.

Independent Offices

American Battle Monuments Commission: \$8.5 million for construction of memorials and cemeteries.

Atomic Energy Commission

\$647,820,000 appropriation and \$300,150,000 contract authority for

the current fiscal year, an undetermined amount of which will be for construction.

General Services Administration

\$22 million for acquisition of sites and preparation of drawings and specifications for federal building projects outside the District of Columbia; \$10 million for renovation and improvement of federal buildings; \$1.2 million for completion of federal office building at Nashville, Tennessee; \$1.4 million and \$2.4 million contract authority for buildings and facilities at Cincinnati for Public Health Service; \$6 million for completion of Federal Courts Building, \$15,358,194 for completion of General Accounting Office Building, and \$3.4 million for renovation of White House; \$9 million for Alaska public works, with requirement that projects must be certified as of value to national defense; \$20 million cash and \$27 million contract authority for advance planning of non-federal public works; \$750,000 for grants for water pollution control plan preparation; \$1 million cash and \$1,467,000 contract authority for Virgin Islands public works.

Housing & Home Finance Agency

Public Housing Administration: \$7.5 million for contributions to public housing agencies.

National Advisory Committee for Aeronautics

\$15.5 million cash and \$11 million contract authority for construction and equipment of laboratories.

Tennessee Valley Authority

\$102,714,000, of which \$95 million is for construction.

Veterans Administration

\$160 million for hospital and domiciliary facilities.

Department of the Army

Corps of Engineers: Rivers and harbors, \$198,811,500; alteration of bridges over navigable waters, \$900,000; flood control, general, \$383,408,250 and \$2.7 million for emergency fund; Sacramento River flood control, \$2,524,500; Roseville, Ohio flood control, \$432,000; Mississippi River flood control, \$66,422,400 and \$450,000 for emergency fund; miscellaneous civil works, \$16,000; military construction, \$95,318,000.

Signal Corps: \$2,877,920 for Alaska construction.

Department of the Navy

Bureau of Yards and Docks: Public works, \$62,900,000.

Department of the Air Force

For "acquisition and construction of real property," \$164,784,000.

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President Vetoes Relief Act Second Time

• Holds Clarification Requested Was Not Included

» FOR THE SECOND time this summer, the ill-starred amendment to the War Contractors Relief Act (Lucas Act of August 7, 1946), has run afoul of a presidential veto. This time, however, the Truman signature was expected since it was passed after being amended to meet the objections set forth in his veto message of June 30. (See CONSTRUCTOR—July and August issues)

In the second veto message, signed August 21, 1950, President Truman

expresses his belief that S. 3906, which was substituted for H. R. 3436, does not meet the objections lodged against its predecessor.

The message continues: "I think it clear that they (the provisions of the bill) serve to transform the War Contractors Relief Act into a general statute of indemnification against loss on government contracts held during the war years, and do not merely obviate what the Congress regards as 'technicalities' that have arisen in the ad-

ministering of the Act. It was this same undesirable purpose that mainly prompted my disapproval of H. R. 3436."

Mr. Truman goes on to say that an attempt was made to adopt the clarification which he had suggested, but he held that no attempt had been made to limit their scope to claims or requests for relief that would have been granted under the First War Powers Act of 1941 but for the termination of hostilities with Japan on August 14, 1945.

"Indeed the committee reports negative the possibility of any such restricted interpretation of the amendments. The bill, moreover, will not preclude the reopening of an indeterminate number of cases that have been settled under the First War Powers Act or the Contract Settlement Act of 1944," he said.

"In the absence of these limitations, the provisions of the present measure and their legislative background are quite sufficient to accomplish what I consider to be a total departure from the intent and scope of the War Contractors Relief Act. . . . It was not the purpose of the First War Powers Act to relieve contractors because of loss or to indemnify them against loss. On the contrary, the Act authorizes the granting of relief because it would assist in obtaining needed war production and thereby 'facilitate the prosecution of the war.' In my opinion, the sole objective of the War Contractors Relief Act was to afford a basis for the continued processing of those relatively few requests for First War Powers Act relief which were still pending on August 14, 1945, and could not be handled by the war agencies after that date without additional statutory authority," the message said.

Mr. Truman declared that the net effect of a bill relaxing the requirements for filing notice under the War Contractors Relief Act, permitting granting of relief beyond that accorded by the First War Powers Act, and excluding finality of settlements made under the FWPA and the CSA of 1944, "would be to write into law the principle of Government insurance against all wartime net losses incurred by contractors providing goods and services to the Government."

In concluding the message, the President said, "I cannot subscribe to the notion apparently held in some quarters that legislation of this kind is required to assure contractors fair and equitable treatment at the hands of the Government."

Congress Passes \$594 Million Highway Bill

• Two-Year Measure Compromise After Senate Slash

» A COMPROMISE figure of \$594 million federal aid annually for highways was agreed to by Congress on August 29 and sent to the White House.

The bill (H. R. 7941), providing aid for the next two fiscal years, compares with its original figure of \$646.5 million as passed in May by the House, and a Senate bill (S. 3424) calling for \$733 million, introduced by Senator Chavez.

The Senate on August 22, in an unusual display of economy, passed the bill after slashing its provisions to \$569 million. This was done after a letter was sent by President Truman to Senator Chavez calling attention to the fact that the House measure called for some \$120 million more than

his January budget recommendations, and urging changes by the Senate committee before a vote, in view of changed conditions since hearings had been held.

The Senate version omitted the \$70 million for the interstate highway system, and this omission was sustained by the conferees, who also pared the \$25 million figure for access roads to military establishments to \$10 million, and eliminated the Rama road in Nicaragua.

The conferees restored the House figures of \$150 million for secondary roads and \$125 million for urban highways, both of which had been cut back by the Senate.

Not in dispute was the item of \$225 million for primary roads.

Comparison of Current Funds with Bill

	Yearly Amount Passed by Congress	Current Authorization (Act of 1948)
Federal-Aid Primary System...	\$225,000,000 (52-53)	\$202,500,000
Federal-Aid Secondary System...	150,000,000 (52-53)	135,000,000
Federal-Aid Urban System.....	125,000,000 (52-53)	125,000,000
Interstate Network	0	0
Forest Highways and Trails....	37,500,000 (52-53)	37,500,000
Tongass Forest Roads—Alaska...	3,500,000 (51-52)	0
Parkways and Park Roads.....	23,000,000 (52-53)	20,000,000
Roads in Indian Reservations...	6,000,000 (52-53)	6,000,000
Emergency Fund.....	5,000,000 (Lump Sum)	0
Inter-American Highway.....	4,000,000 (51-52)	0
Rama Road in Nicaragua.....	0	0
Access Roads to Military Posts	10,000,000 (Lump Sum)	0
Roads in Public Domain.....	5,000,000 (51-52)	0
Yearly Total	\$594,000,000	\$526,000,000

A WAR VETERAN WHO IS PAYING A BONUS

Here's a BUTLER Central Mixing Plant with a talent for travel coupled with an unsurpassed genius for production.



Here's its itinerary and the top secret war construction for which this rugged veteran poured millions of yards of concrete.

- | | |
|-------------------|--|
| <i>Indiana</i> | Hoosier Ordnance Plant (shells). |
| <i>Texas</i> | Lone Star Ordnance (shells and powder). |
| <i>Utah</i> | Navy Supply Base. |
| <i>Washington</i> | Hanford Engineering Works (the atomic bomb). |
| <i>Arkansas</i> | Government Ordnance Plant (rocket powder). |

Incidentally, on all these war projects it was the Kolinsky Concrete Co. of Milwaukee which was in immediate command of "Operations Concrete."

And now — far from retirement, that veteran BUTLER Central Mixing Plant is *paying* a bonus by pouring concrete for a power dam at Ladysmith, Wis.

All of which proves that BUTLER Engineered Design also pays a bonus far beyond expectation.

For complete descriptions of BUTLER Ready Mixed and BUTLER Central Mixing Plants write for Bulletin 185.



BUTLER BIN COMPANY

953 BLACKSTONE AVE., WAUKESHA, WISCONSIN

Before you buy **a diesel engine**

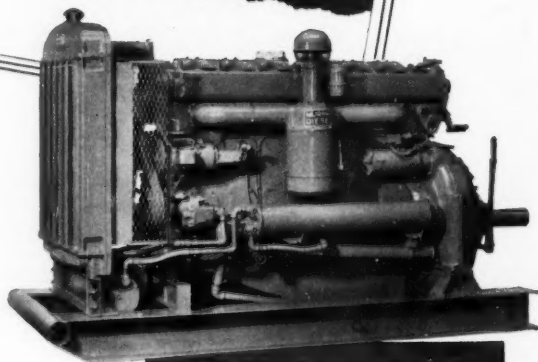
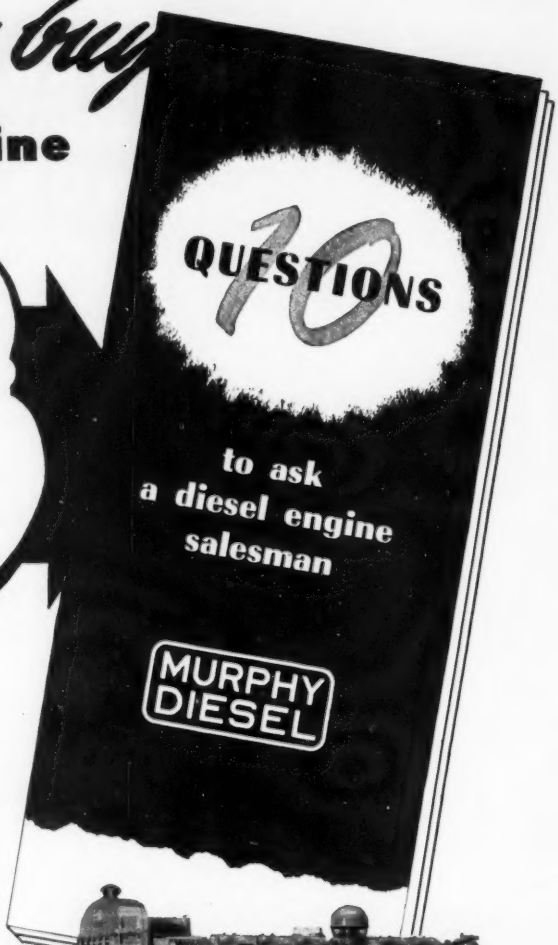
**...be sure
and
read this
booklet!**

A sound basis of comparison is essential to the selection of the proper diesel engine to meet your power requirements. And that's just what the booklet "*10 Questions to Ask a Diesel Engine Salesman*" gives you. If you want economy, dependability and long engine life this booklet will show you what to look for in a diesel engine.

In addition, the "*10 Questions*" booklet describes fully the Murphy Diesel line of heavy duty "true" diesel engines, giving design details and basic specifications. No diesel power user or prospective diesel power user should be without this helpful 28-page booklet. Write for your copy, mentioning your company affiliation and position.

MURPHY DIESEL COMPANY

5333 W. Burnham St., Milwaukee 14, Wisconsin



Heavy duty power
for construction

Murphy Diesel Engines and Power
Units for construction, 90 to 220
H.P. Generator Sets, 60 to 133 K.W.

Several Units Alerted; M. C. Miller Gets Orders

By the first of September, eight of the reserve construction units sponsored by chapters and branches of The Associated General Contractors of America in the Army Affiliation Program had been alerted for call to active duty.



Lt. Col. Miller

Some of the units are commanded by general contractor members of the A.G.C., and construction men employed by construction firms are among the enlisted complements of all units.

Among the first to be called was the battalion sponsored by the Kansas Contractors Association, A.G.C., and commanded by Lieutenant Colonel M. C. Miller, of the San-Ore Construction Company, McPherson, Kansas.

Colonel Miller is president of the chapter, a national director of the association's District 5, and vice chairman of the A.G.C.'s Highway Contractors' Division.



U. S. Army Photos

A.G.C. Unit in Summer Training

The 820th Engineer Aviation Battalion, sponsored by the Northern California Chapter, A.G.C., while training at Camp Lewis, Washington this summer, with aviation troops of the Sixth Army, helped construct a liaison air strip for artillery support planes, 1,000 feet long and 50 feet wide. The strip (shown above) was in addition to the unit's normal basic training and will be a valuable part of the fort's permanent installation.

Personnel of the battalion, commanded by Major Donald Morgan, are shown below:

Left to right, top row, M/Sgt. William Kerr, Pfc. E. Soza, Capt. R. Sampayan, Sgt. J. Hartman, M/Sgt. R. Seifred, Lt. W. Tong, and Capt. R. Lee. Front row: Capt. C. Hanna, Capt. L. Kristof, Capt. W. Gardiner, M/Sgt. L. Murphy, Capt. A. H. O'Brien, Capt. R. Spiegel, Major D. Morgan, Major T. Jarvis, and M/Sgt. W. Leary.

N. Y. Chapter in Civil Defense

The New York State Chapter, A.G.C., and the New York State Department of Public Works last month established a working relationship for the purpose of effective utilization of the repair and construction potential of the state in the event of an enemy attack.

A month's planning of the use of construction equipment, manpower and materials under the direction of General Lucius D. Clay, chairman of the state's Civil Defense Commission, was highlighted August 25 by a meeting of a joint Civil Defense Committee from the chapter and the Department of Public Works.

Topics explored included compensation for contractors' equipment used on emergency work; legal steps needed, if any, to permit work in adjacent states, and how local area civil defense directors in the state can best keep up to date inventories of equipment available in their areas.

Roscoe C. Holmes, chapter president, and B. A. Lefevre, of the Depart-



ment of Public Works, are co-chairmen of the joint committee.

At a dinner closing the meeting at the Syracuse Yacht & Country Club, A.G.C. Past President D. W.

Winkelman was master of ceremonies.

Speakers were Lawrence Wilkerson, state director of civilian defense, and Bertram D. Tallamy, superintendent of public works.



Q

**HOW MANY
DAYS IN A
WEEK?**

A

**"TWENTY-
ONE,"**

says
Geo. W. Longfellow



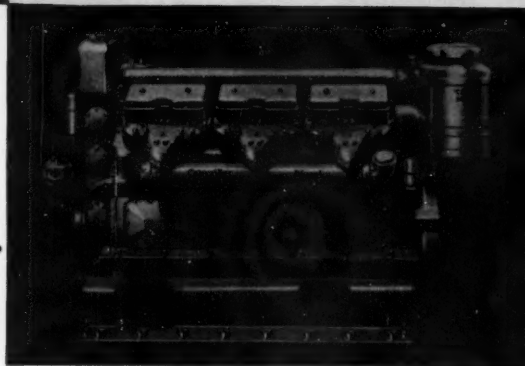
Mr. Longfellow is right—when you look upon twenty-four-hour going as the equivalent of three normal working days. That is the equipment-torturing schedule followed on the channel relocation project at East Alton, Ill.

Speaking with pride of the recently installed "Cat" D386 Engine that drives his big Bucyrus-Monaghan walking dragline, Mr. Longfellow said: "She's working a '21-day' week, has plenty of power—and can really take it."

Running continuously for long stretches at varying capacities is one of the performance feats so typical of "Caterpillar" Engines. Delivering their full horsepower output whenever called upon is another. Compactness, easy installation, economical fuel consumption, minimum maintenance costs, and almost incredibly long life are still other advantages for high production and maximum profits. They are swaying contractors everywhere toward specifying "Cat" Engines with the new equipment they buy and to replace "ailing" or inadequate units in old equipment.

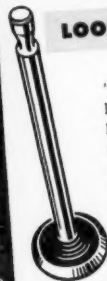
A "Cat" Diesel may be just the thing for giving your crane, shovel, dragline or dredge a new lease on life—or the extra power it needs to make it more productive. Let your "Caterpillar" dealer make a survey and a cost estimate. He's as near as your telephone.

CATERPILLAR • **PEORIA, ILLINOIS**



The powerful "Cat" D386 installed in the Longfellow dragline develops 400 hp. max.; 360 hp. rated; 320 hp. continuous, at 1200 rpm. and with full equipment except radiator fan.

LOOK UNDER THE HIDE



"Caterpillar" intake and exhaust valves are made of highly alloyed, heat-resistant steels. Their ample size, close machining and heat-treat specifications have resulted in thousands of hours of trouble-free valve operation. Valve and rocker arm designs are matched to reduce wear. Look under the hide for "Caterpillar" quality and long-life features—they may not show on the outside but they show up in performance.

CATERPILLAR

REG. U.S. PAT. OFF.

DIESEL ENGINES • TRACTORS

MOTOR GRADERS • EARTHMOVING EQUIPMENT

» THE SPECTACULAR, mile-long Tacoma Narrows suspension bridge soon will provide motorists a shortcut between the Seattle-Tacoma area and the rich hinterland of the Olympic Peninsula for the first time since the collapse of its ill-fated predecessor on November 7, 1940.

More than 4,300 cubic yards of concrete are being placed on the four-lane deck at the rate of 250 yards per day by Woodworth & Company, Inc., A.G.C., Tacoma, to ready the \$11 million structure for opening between October 1 and November 15.

John A. Roebling's Sons Company is scheduled to complete by October 1 its \$3 million contract for the anchor steel, cables, cable bands, suspenders, and other pertinent parts.

These companies, teogether with Bethlehem Pacific Coast Steel Corporation, which has the contract for steel and erection, are the builders of the original span, collapse of which presented a real challenge to designers of the new bridge. Experiments were conducted with 30 models in the Uni-



Phoenix-like, the nearly-completed Tacoma Narrows suspension bridge rises from the reconstructed piers of its ill-fated predecessor, "Galloping Gertie."

New Tacoma Narrows Bridge to Open Soon

- Third Longest Suspension Bridge May Be Ready Next Month

Below, left, are shown Roebling's workmen erecting main span footbridge. At right, Bethlehem workmen erect top chord.



versity of Washington's wind tunnel.

The new span weighs 31 million pounds, compared with the 18.4 million of the "Gallopier Gertie"; the cables weigh nearly 11 million pounds instead of eight million; deck weight is increased by 55 per cent by the building of four lanes instead of two; open trusses are being used instead of solid "I" beams to facilitate wind passage; and hydraulic cylinders at the towers will dampen any rolling action that may develop on the deck.

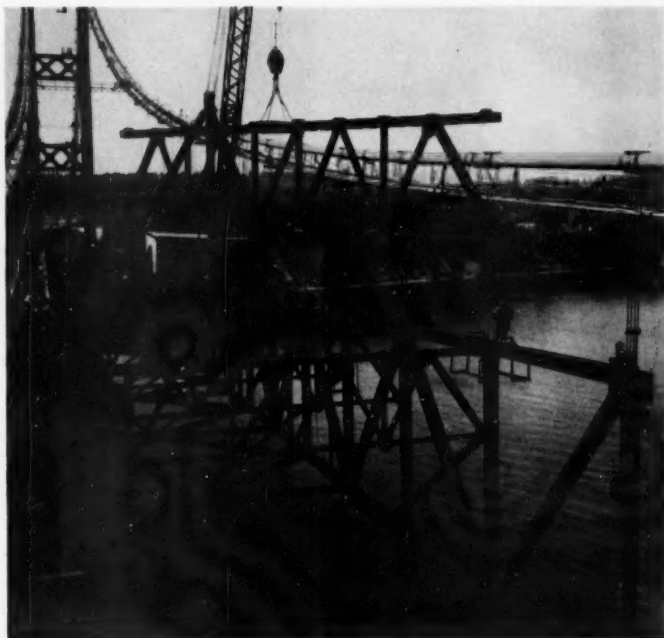
In addition, gridded steel slots separating the four lanes and the sidewalks are intended to disrupt air flow and equalize pressure above and below the deck.

Woodworth reports speedy results by the use of large, plywood form panels. Almost one-third of a million square feet of Douglas fir plywood was used on the 5,979-foot roadway, for above-ground concrete of the anchors, viaducts, bents, and the two toll houses flanking the Tacoma-side approach.

In the steel erection, the same procedure was used as on the Golden Gate structure. Four travelers were used, two starting at each tower, working in opposite directions, erecting about 95 per cent of the steel for the roadway as they moved along. On the return trip, they completed the erection work. Compensating construction was maintained to balance the sag in the main suspension cables as sections were tied into the suspenders.

Total length of the project is 7,250 feet. The main span is 2,800 feet long, and towers are 502 feet high.

In order to prevent salt spray from

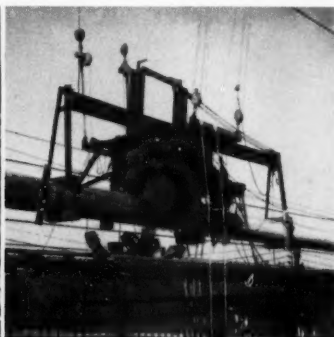


Main span traveler erecting floor beam on Tacoma Narrows bridge.

reaching the steelwork, the old bridge pedestals were built up by 18 feet to a height of 40 feet above the low tide level. The reinforced shore anchor blocks for the old span also were enlarged for the heavier bridge after careful partial demolition before the addition of new concrete.

Earl Starbard is job superintendent

for Woodworth; T. M. Martinsen, resident engineer for Bethlehem; Robert J. Cole and H. W. Hills, erection manager and resident engineer, respectively, for Roebling's; Charles E. Andres, chairman and principal engineer, Washington State Bridge Authority; Dexter R. Smith, designing engineer.



Roebling's Photos

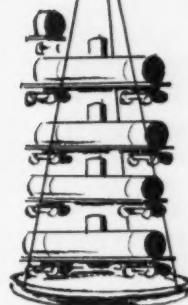
Work of John A. Roebling's Sons Company, which also had the cable jobs on the two longest suspension spans in the world, the George Washington and the Golden Gate. At left, spinning wheel pulls wire out along walk. After each pair of strands was built, they were adjusted into permanent positions by a night adjusting gang to avoid effects of the sun. Center photo shows main cable being compacted, and at right, cable wrapping machine "jumps" cable band. Cable at right is already wrapped, and wire seizings at left are removed ahead of machine.

**FOR THE BEST IN PUMPING ECONOMY
IT'S THE BARNES "33,000 FOR 1" EVERY TIME**

IT'S AMAZING!

4 $\frac{1}{8}$ TANK CARS ON ONE GALLON OF GAS

For operating economy, Barnes Automatic Centrifugals are unmatched in anyone's language or for anyone's money. Barnes Self-Priming Centrifugals deliver 33,000 gallons of water for every gallon of gas they burn. That's equal to 4 $\frac{1}{8}$ railroad tank cars filled to the top and running over. And that is amazing economy! That's economy you can't overlook when considering your pump requirements. You can get them powered with either gasoline or Diesel engines, electric motors, or with pulley pumps for the application of your own existing power service. Ask your dealer for a free demonstration of these better Barnes Pumps. You'll be pleased with what you see.



THERE'S A BARNES "33,000 FOR 1" PUMP TO FILL EVERY PUMPING NEED



The Flash—A. G. C. Rating
3,000 gph.



The Stroke—A. G. C. Rating
7,000 gph.



The White—A. G. C. Rating
10,000 gph.



The Lightning—A. G. C. Rating
15,000 gph.



The Ace—A. G. C. Rating
20,000 gph.



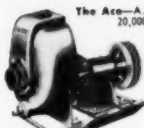
The Sensation—A. G. C. Rating
30,000 gph.



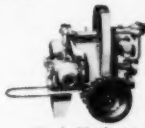
The Marvel—A. G. C. Rating
40,000 gph.



The Master—A. G. C. Rating
50,000 gph.



Pulley Driven Pumps from 1 $\frac{1}{2}$ -in.
to 6-in Suction and Discharge



Single Diaphragm Pump
(8C-402)

BARNES MANUFACTURING CO.

MANSFIELD, OHIO

BUY THE BEST — BUY BARNES

The New INTERNATIONAL TD-24



HERE'S WHAT THE



Positive all-weather starting on gasoline, with quick change-over to full diesel operation, all from the seat.



Separate reverse lever for quick change of direction. The tractor moves in the direction the lever is moved.



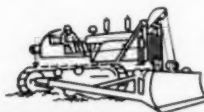
Self load and run with scrapers of 17-yard capacity—and shift gears on-the-go with the rolling load.



Cut waste shifting time out of work cycles, provide the best speed for every operation, 8 speeds in each direction!



INTERNATIONAL



CHAMPION of Crawlers

"The TD-24's work right along on slopes so steep we have to cut them down before other tractors can climb them even without loads," says Bob Rardin of Rardin Brothers, Akron, Ohio. "They are fast tractors, easy to shift and have plenty of power. This combination really moves dirt." His TD-24 was equipped with a bulldozer.

"It will out-buck any tractor I've ever run," says Harold Wooley's operator, Drain, Oregon, "and sure push dirt up hill—and climb steep grades." His TD-24 works regularly on 30% to 50% grades, building mountain roads.

"I wouldn't have anything else," says another Oregon operator. He works for V. R. Russell &

Sons of Valsetz. "It's sure fine on bulldozing; best dirt mover I ever got hold of."

That's the way owners and operators talk about the International TD-24 Crawler. It has earned their praise, for it does everything any other big tractor can do, *plus many things that NO other tractor can do.* The TD-24's versatility makes it the most useful and profitable earth-mover in any equipment line-up.

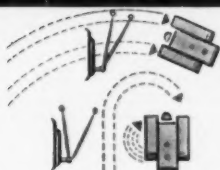
Visit your International Industrial Power Distributor for a demonstration. Then ask yourself how long you can get along without this big red worker and the extra earnings it will produce.

INTERNATIONAL HARVESTER COMPANY
Chicago

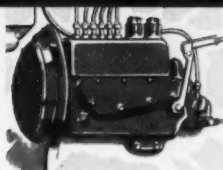
TD-24 CAN DO FOR YOU



Instant speed change up or down one speed, or stop, without declutching. Planet Power drive does it!



Planet Power steering puts turns with power on both tracks, feathered turns and pivot turns at your fingertips.



Torque Control feature of fuel injection pump increases engine torque when needed to overcome overloads.



Work on grades up to 100%. Its power, ground contact, balance and lubrication are right for licking any grade.



Handle heaviest loads on gradual turn as easily as straightaway because both tracks are powered in the turn!



Push or pull through tough going. The engine delivers extra "power" when its r.p.m. is pulled down by load.

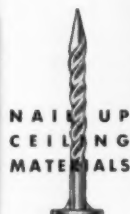
INDUSTRIAL POWER



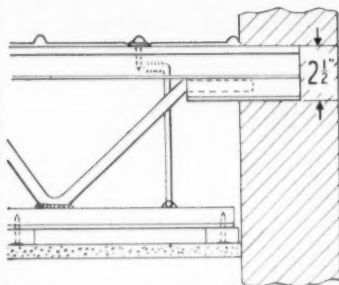


**After One Year of Volume
Production — We Now Announce**

Write For
Your Copy



THE MACOMBER DOUBLE V JOIST



Furring strips or Metal lath can be nailed directly to bottom chords with large head spiral nails.

To thousands of Architects, Engineers and Contractors who have specified and used Macomber Double V Joists this announcement will not be news. To all others it will be about the best news a builder can hear because Macomber Double V's safeguard profits. The patented Nailable Steel Section used in the top chord which grips nails $2\frac{1}{2}$ times better than wood has been used in the bottom chord with the enthusiastic endorsement of structural engineers throughout the U. S. and many foreign countries.

All a builder has to do is to keep his costs on one job to discover how much faster nailing is than wiring and how much less concrete is used when lath is anchored instead of slipping into deep pockets of wasted concrete between joists. This joist requires no ceiling extensions. You SAVE time, labor and materials on every Double V installation. Write for Catalog.

STANDARDIZED STEEL BUILDING PRODUCTS



MACOMBER • INCORPORATED
CANTON, OHIO

IN CANADA, SARNIA BRIDGE CO., LIMITED, SARNIA, ONT.
IN MEXICO D. F.—MACOMBER DE MEXICO S. A. CEDRO 500

V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

» RECONSTRUCTION of a historic "church of Presidents" and erection of an adjoining new 13-story office building are being carried out simultaneously in downtown Washington, D. C., by a single construction firm.

Although the Chas. H. Tompkins Company, A.G.C., had been awarded the contract for rebuilding the New York Avenue Presbyterian Church several months before bidding on the Wyatt building planned for next door, a delay by the church in its project now finds the contractor in the unique position of doing both jobs simultaneously—using the same excavating equipment, pile hammers, tool sheds, offices, fences and other machinery for both structures. Since both buildings are to adjoin on a triangular area bounded by three streets, the firm simply excavated the entire tract at the same time for both basements.

A church has stood on the site since 1822, known then as the Second Pres-

A.G.C. Contractor Performing Two Jobs—Same Time and Site

- Historic "Lincoln Church" Being Rebuilt
- 13-Story Office Building Joint Project
- Same Equipment Used for Both Structures

byterian Church until merged with another nearby in 1858, after which it was razed and a new one built.

"President Lincoln's Church"

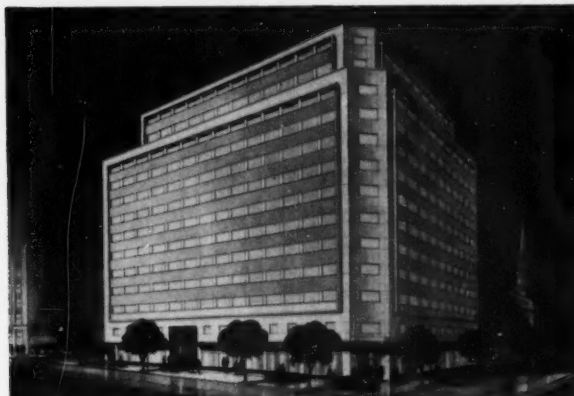
Commonly known as "President Lincoln's Church," this place of worship actually has been attended by eight other Presidents: John Quincy Adams, Andrew Jackson, William Henry Harrison, James K. Polk, Franklin Pierce, James Buchanan, Andrew Johnson, and Benjamin Har-

rison. President and Mrs. Lincoln were regular attendants.

By an interesting coincidence, it was the Chas. H. Tompkins Company that installed a new tower in 1928 to replace the one that was blown down in 1895. The new tower was a gift from Mrs. Robert Todd Lincoln, as were the chimes which were manufactured by a family company.

During the demolition of a building in the Ninth Street region of Northwest Washington, the corner stone of

(Continued on page 46)



3 TOURNAROCKERS

*"very satisfactory on
Pine Canyon project"*



Tournapull, Carryall—Trademark—R.G. LeTourneau, Inc. Tournarocker—Trademark—R.G. LeTourneau, Inc.



Mail today to: R. G. LeTOURNEAU, Inc., Peoria, Illinois

NAME _____ TITLE _____
 COMPANY _____
 STREET _____
 CITY _____ STATE _____
 Type work _____

- ☐ Send us more information
☐ Have Distributor call about:
 35 m.p.h., 16-ton Tournarocker
 Also interested in:
☐ 25 m.p.h., 9-ton Tournarocker
☐ 30 m.p.h., 35-ton Tournarocker

GOODFELLOW Brothers, Inc.,

tackled one of the northwest's toughest highway jobs . . . relocating 4.4 miles of U. S. 2 along steep sidewalls of rocky Pine Canyon, near Wenatchee, Washington. With over 600,000 yards of shovel rock to be carved out of the cliff face, some of the material is side-cast . . . much of it has to be hauled and dumped along the mountainside trail to widen narrow sections. Goodfellow Brothers, Inc., assigned the most difficult hauling to 3 LeTourneau 16-ton, rear-dump Tournarockers . . . and according to James B. Goodfellow "They are working out very satisfactorily".

Here are contractor's own figures

Loading under a 2-yard rock shovel, the Tournarockers carry 9 to 11 bank yards each trip. On one 2800-foot, one-way haul, actual job records show that Tournarockers easily handle shovel production of 1000 yds. every 8-hour shift. This rate of production, day in, day out, helps keep the job on schedule in spite of the rough haul roads, steep grades, and confined hauling conditions at altitudes of 2000 feet.

13' 9" turn radius speeds handling

Short, 90° turns, and positive electric steer by push-button control, permit easy turning and spotting anywhere along the narrow trail for load and dump position. Oversize, disc-type air brakes on all 4 wheels (4176 sq. in. total braking surface) give operators complete safety throughout the hauling cycle. Positive holding action of 4-wheel brakes . . . plus front-wheel drive on 186 h.p. Tournapull prime mover . . . let the Tournarockers dump safely out over the edge of mountainside fills. Simple electric hoist raises body to vertical position . . . streamlined bowl clears loads instantly.

Important savings for you

These same revolutionary Tournarocker advantages that are helping Goodfellow Brothers, Inc., lick steep slopes and rough going on the Pine Canyon project offer new low-hauling costs for your jobs, too. Ask your LeTourneau Distributor about this 16-ton, rear-dump Tournarocker. He can also give you complete information on 9-ton and 35-ton Tournarockers . . . and will show you money-saving interchangeability with Carryall Scrapers, bottom-dump hoppers, cranes, flat-beds and other auxiliary hauled units. Your investment dollar provides steady year-round earnings with interchangeable auxiliary units at approximately 25% of the cost of the original unit. Write or call NOW!



Big target . . . Operator on Goodfellow Brothers' 2-yard shovel has large target with Tournarocker's 12' 5" x 8' top opening . . . speeds shovel swings, has less spillage.



Rock body . . . Here's a typical load of big-chunk rock carried by Tournarockers along Pine Canyon's slopes. 186 h.p. for 16-ton capacity licks the toughest hauling conditions.



90° turns with positive power steer . . . Short 13' 9" turning radius is an important advantage where operators have to turn and dump their loads along these narrow trails.



Front-wheel drive . . . Means you can keep the drivewheels of the prime mover on firm ground. Front or rear wheel air brakes can be set independently.

LETOURNEAU TOURNAROCKERS

PEORIA, ILLINOIS

HIGH SPEED on RUBBER PLUS TRACTION ADVANTAGES of a CRAWLER

(Continued from page 43)

the church razed in 1859 was discovered. It was removed to the lower foyer of the church and set into the wall as a memento. A place is to be found for it in the new edifice.

As will be noted in the photograph of the old church and the architect's rendering of the new, the general characteristics of the old building will be followed—red brick, white columns and a tower similar to the old one.

Two Projects Distinct

During the rebuilding of the church, services conducted by the pastor, the Rev. Dr. George M. Docherty, are held in Lisner Auditorium at George Washington University. Occupancy is anticipated early in the autumn of 1951.

The two buildings are separate and distinct jobs. Plans for the Wyatt building were drawn by A. R. Clas, while the architect of the church is Delos Smith. The office building which will cost an estimated \$2.3 million is reinforced concrete, while that of the church utilizes structural steel. The church will cost \$1 million.

The office building, consisting of 13 floors and two basements, will house a new Longchamps restaurant and business offices, announced Francis M. Tompkins, vice president of the Tompkins Company. "We do not know how many offices there will be since flexibility is required to meet reservations for space," he explained. The Washington real estate firm of Shannon & Luchs is in charge of rentals of the building, owned by the Virginia Hotel Corporation.

The Tompkins Company has under way some \$30 million worth of construction in its own name and \$83 million worth in conjunction with other firms.

B.R.A.B. Program Postponed

The Building Research Advisory Board's one-day research correlation conference on "Fire Resistance of Exterior Non-Load-Bearing Walls" which was scheduled for September 26 has been postponed until November 21. The change in date was made necessary by the fact that many of the speakers desired for the program were either on vacation or out of the country on business. No change in the general plan of the program as announced in *THE CONSTRUCTOR* for August is contemplated.

Detroit Introduces Emergency Clauses

• Other A.G.C. Chapters Taking Similar Action on Contracts

» EMERGENCY BUILDING contract clauses have been re-introduced by the Detroit Chapter, Associated General Contractors of America, according to an announcement made in the latter part of August by Leo P. Richardson, of W. E. Wood Company, Detroit. Mr. Richardson is chairman of the national A.G.C. Committee on Contract Forms and Specifications.

A draft of special clauses has been released to architects, engineers, owners and contracting agencies in the Detroit area. These cover possible work delays, changes in labor or material prices, and contract termination conditions which would become effective in the event of a Presidential declaration of a national emergency. "The special provisions will not become effective until such a declaration is made, but we are trying to keep our owners as forewarned as possible," declared Mr. Richardson. "We are already running into a few critical building items and voluntary allocation of certain materials," he added.

The clauses were originally developed by the A.G.C. in 1939 under conditions closely paralleling the industry's position today, and have recently been reviewed and re-endorsed by the national and local committees. "We hope they will be generally adopted," said Mr. Richardson. Other chapters are taking similar action on emergency clauses, Washington A.G.C. headquarters announces.

Mr. Richardson also announced that several Detroit contractors had indicated their intention to qualify immediate bids on long-term jobs, because of the possibility of a large scale mobilization program, essential government defense work, economic controls and priorities.

In his message to Congress on July 19, President Truman directed that all civil works projects that do not contribute to defense or which are in competition with national defense needs be deferred or slowed down as far as practicable. A stipulation to allow the contractor full payment for work executed and completed, losses sustained, etc. in case of work stoppages of three months or more, due to no fault of the contractor, has been requested in certain instances of this kind.

Lumber Goes Up 10 Per Cent

Price increases in lumber ranging from \$28 to \$45 per thousand board feet, together with wage increases ranging from one cent per hour to 16¢ per hour, account for an over-all increase in total building costs of about 10 per cent in the Metropolitan New York and New Jersey district, the Dow Daily Building Service reports. Lumber price increases when related to their impact on total construction costs are from eight to 12 per cent in 15 cities of this area, whereas the labor increases line up around the three per cent mark. This is in relation to the market of six months ago.

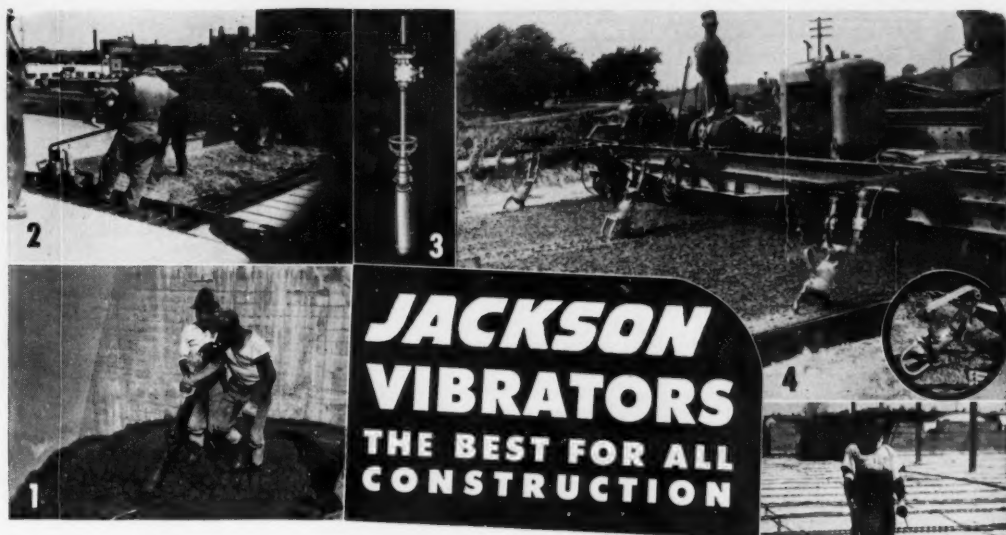
The hourly wage increases in the New York locations where rates were frozen from January 1, 1948 to June 30, 1950, are evidence only of current "catching up" of local labor with the unfettered movements of labor in New Jersey, which has several months since moved along progressively.

Construction costs in Atlantic City, New Jersey, have advanced some 10 per cent in the past six months, which leaves them at a point about four per cent less than a year ago. However, building costs are now 100 per cent above prewar 1941.

In the five boro's of New York, the effect upon total construction costs of the various benefit programs, among which are payroll contributions, welfare funds, paid holidays and new forms of pensions are noteworthy. In nine basic trades for skilled and common labor, the average hourly wage rate today is \$2.93 per hour as compared with \$2.78 six months ago.

July Prize Housing Month

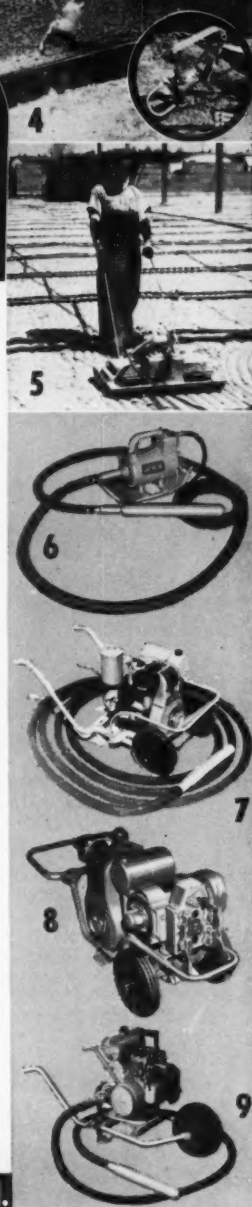
July was the best homebuilding month in history, the Bureau of Labor Statistics announces. Preliminary BLS estimates indicate 144,000 new permanent nonfarm dwelling units were started in July, bringing total for first seven months of 1950 to almost 839,000. At end of July, new housing activity was 54 percent above last year's January-July volume. Every month in 1950 thus far has broken housing records.



- 1 MASS CONCRETE VIBRATOR:** This machine has a tremendously impressive record on world dam construction — wherever true mass concrete is placed.
- 2 ELECTRIC VIBRATORY SCREED** with Jackson Portable Power Plant: A great producer on MUNICIPAL PAVING, BRIDGE DECKS, HIGHWAY WIDENING and PATCHING. Strikes off to all crowns, undercuts at curb or sideform, works right up to and around manholes and other obstructions. Inexpensive.
- 3 HEAVY DUTY GENERAL PURPOSE VIBRATOR:** For small dams, large sections or any job permitting entrance of a 4" diameter vibrator head.
- 4 SIDE FORM VIBRATOR:** Works equally well mounted ahead of finisher screed or in rear of spreader. Controlled by finisher operator. Saves better part of two men's labor. Will not penetrate through concrete to subgrade.
- 5 VIBRATORY SOIL COMPACTOR:** Can be used to tremendous advantage in quickly obtaining specified densities in granular soils adjacent to structures, bridges, culverts, trenches, factory floors, earth fill dam construction and many other places. Propels itself.
- 6 FLEXIBLE-SHAFT, ELECTRIC VIBRATOR:** 2½ HP motor. Operates from light socket, 115 volt, single phase AC or DC, with any length of shaft up to 28'. 8,000 to 10,000 VPM.
- 7 HYDRAULIC VIBRATOR WITH 50 FT. REACH:** Powerful (7 HP), dependable and efficient. Reaches hard-to-get-at places with minimum moves of power unit.
- 8 PORTABLE POWER PLANTS:** Three models. 1.25, 2.5, 5 KVA capacities. Generate both single phase and 3-phase 110 volt, 60 cycle AC and are equipped with permanent magnet generators requiring no adjustment or maintenance. For operating all types of vibrators, contractor's tools and lights.
- 9 ENGINE-DRIVEN FLEXIBLE-SHAFT VIBRATOR:** The finest in its class, for both thin and thick sections. Ample power (4.7 HP).

AND MANY OTHER VIBRATORS for every type of concrete placement.
FOR SALE OR RENT at Jackson distributors. Write for free copy of our
handy "POCKET GUIDE." Describes complete line.

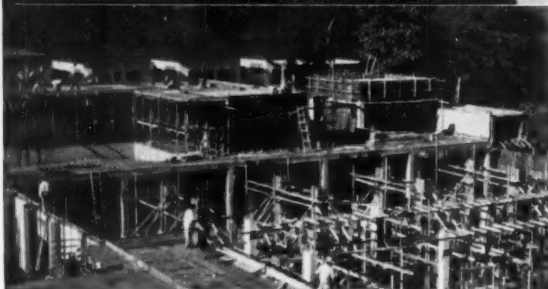
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**Estimated Forming
Material Costs
—\$80,000⁰⁰***

**UNI-FORMS
did it for
\$43,251⁴⁰†**

**UNI-FORMS
saved \$36,748⁶⁰**



TUBERCULOSIS HOSPITAL, Rio Piedras, Puerto Rico
ARCHITECT: Isador Rosenfield
CONTRACTORS: Mendez, Grillasca, Nolla, Galib and Marquez, Inc.

UNI-FORMS built this 800 bed hospital in record time . . . formed walls, slabs, beams, columns, tunnels, retaining walls . . . and saved \$36,748.60 in forming material costs alone!

UNI-FORMS reached the job ready to use . . . provided faster, smoother forming cycles . . . labor costs were 1/2 the estimate . . . possible only with UNI-FORMS!

You can use UNI-FORMS . . . to form any type of concrete . . . to save time, labor and material . . . to assure more profit on every yard of concrete you pour.

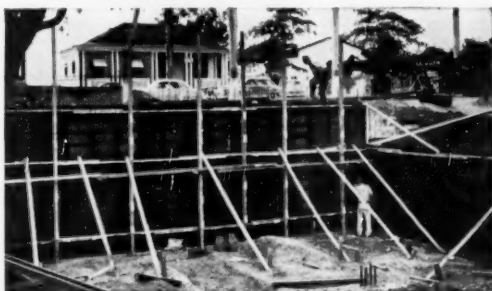
**BILL OF MATERIAL FOR FORMING CONCRETE
ON TUBERCULOSIS HOSPITAL, RIO PIEDRAS, PUERTO RICO**

***ESTIMATED:**

1,000,000 Bd. ft. of lumber required for forms, walers, alignment, etc., @ \$.10 per Bd. ft. . . .	\$100,000.00
LESS 20% lumber salvage	20,000.00
TOTAL ESTIMATED COST	\$ 80,000.00

†UNI-FORM COSTS:

22,500 sq. ft. of UNI-FORMS	\$ 37,256.80
400,000 bd. ft. alignment and bracing	
lumber actually used	40,000.00
SHIPPING UNI-FORMS TO JOB	3,800.00
	\$ 81,056.80
Less Contractor's valuation of UNI-FORMS at end of job, 80%	\$ 29,805.40
LESS 20% LUMBER SALVAGE	8,000.00
TOTAL ACTUAL MATERIAL COST	\$ 43,251.40



**UNI-FORMS
SAVED 1/2
ON LABOR, TOO!**

UNIVERSAL

Form Clamp Company

Founded 1912

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CHICAGO 51, ILL.

» THE PHILADELPHIA extension of the Pennsylvania Turnpike, 101.2 miles east from the Middlesex Interchange, eastern terminus of the original highway, will be opened to traffic in October, according to an announcement by the Pennsylvania Turnpike Commission. Construction was started September 28, 1948. Contracts, numbering 28, including bridges, were awarded to 17 firms.

Meanwhile, progress is being made on the western extension from Irwin east of Pittsburgh 67 miles to the Ohio state line not far from Youngstown. Work on this section of the turnpike began in October 1949 and completion is expected late next year. Contracts here number 27, including two bridges and three viaducts, and were awarded to 18 firms.

Finishing the two extensions will give the Turnpike System 327.8 miles of divided highway, two 24-foot lanes in each travel direction with a 10-foot median strip and 10-foot shoulders on each lane. There are no crossings at grade, but in the entire distance there are 378 highway and railroad, and 274 stream and river crossings for a total of 652 crossings of all types, either above or below grade. Three crossings of major proportions

Eastern End of Penn Turnpike Opens For Traffic Next Month

- 328-mile Superhighway Built Without Taxation
- No Grade Crossings Help Accident Prevention

are included—the bridges spanning the Susquehanna, Beaver and Allegheny rivers. The original pike has seven tunnels totalling 6.7 miles in length and piercing seven mountains of the Appalachian range.

Remarkable demonstrations of fuel and time savings over 25.77 miles of the turnpike with a comparable stretch of the Lincoln Highway were made with trucks of 50,000 and 139,000 pounds gross weight. The lighter vehicle on the highway used 9.8 gallons of gas and took 93 minutes; its counterpart on the turnpike used 6.3 gallons of gas and took 41 minutes. With the heavier truck, the distinction is even more marked. The vehicle over the Lincoln Highway used 23.8 gallons of gas and required 126 minutes. A truck of the same weight over the turnpike consumed only 10.6 gal-

lons and required only 44 minutes. With such inducements to offer the shipper and motor traveller, the commission expresses confidence in the potentialities of the two extensions.

Not a cent of the millions which the system will cost has come out of taxes, the commission reports. Financing of the eastern extension has been through the sale of bonds to banking houses, insurance companies and individuals for a total of \$134 million. A similar bond issue will be made for the western extension.

Traffic studies indicate that increases in traffic percentages are reflected in similar increases in tolls. For instance, the Labor Day weekend traffic in 1949 was 16 per cent over that of 1948 while the revenues were 20 per cent higher.

(Continued on next page)



(Left) From Harrisburg to Philadelphia, the turnpike winds through hill country of rare scenic beauty.

(Above) Scene showing construction work being carried on in the eastern extension of the Pennsylvania Turnpike. Engineering know-how and modern road building machinery enabled the highway contractors to put down the 100-mile stretch, complete with bridges, in record time.

(Continued from page 49)

Tolls paid by out-of-state vehicle operators during 1949 on trips to points outside Pennsylvania amounted to one-half of the total toll income of \$7,050,000. A further source of revenue to the state is that from taxes on gasoline sold to turnpike users. Since the highway was opened October 1, 1940, more than \$2,500,000 in such taxes have been collected. Estimates place the total for 1950 at more than \$500,000. These taxes go to the Pennsylvania Department of Revenue.

Contrary to popular belief, not all the trucks and passenger cars using the turnpike start at one end and keep right on to the other end. From the opening of the highway in 1940 and until the end of the commission's fiscal year on May 31 last, only 29.30 per cent had used the full distance. The other 70.70 per cent was made up of traffic for relative short distances, many motorists turning off for pleasure trips on public roads in the mountainous area traversed by the turnpike.

Less than one-fifth of the turnpike's traffic is in trucks—19.7 per cent to be exact. However trucks, which pay tolls based on capacity,

supplied 56.91 per cent of the highway's tolls.

On the 100-mile eastern or Philadelphia extension, there is no grade exceeding two percent and no curve of more than three degrees. On the western extension there will be no grades exceeding three per cent and no curves exceeding four degrees. The extensions, it will be noted, are straighter than the original turnpike, which has no curve over six degrees.

High Safety Record

The straight level highway without intersections and grade crossings naturally has a high safety record. The commission forbids signs along the turnpike in the belief that such advertising detracts drivers' attention and contributes to accidents. Head-on collisions are unknown, but those accidents which do occur are usually rear-end collisions due to unskilled drivers failing to allow time and space for a pull-out to go around a car ahead moving at 70 miles per hour.

Fares charged a private motorist on the turnpike is less than one cent a mile. When both extensions are in operation, it will cost about \$3 to drive

from Philadelphia to the Ohio line or vice versa. On this basis, if a comparable turnpike extended from coast to coast, toll would total \$30.

Trucks are charged from \$3 to \$10, depending on the gross weight of the vehicle. However, truck and bus owners receive a discount of five per cent on a monthly volume of \$300 to \$800; 10 per cent on a volume from \$800 to \$2,000; and 20 per cent on more than \$2,000. Busses are taxed from \$3 to \$6, depending on the number of passengers.

The largest single customer of the turnpike is the Pennsylvania Greyhound Lines, Inc. Its gross bill since the highway was opened nine years ago has been approximately half a million dollars. After allowances for discounts, it has paid the commission \$400,000 for 113,000 trips. Officials of the company announce that Greyhound will use both extensions, provided regulatory authorities permit.

Because of the facilities made available by the turnpike, the bus beats the train from Pittsburgh to Harrisburg, making the trip in some four hours and 15 minutes. The same trip by parallel public routes requires a minimum of seven hours.



Maryland State Roads Commission

Maryland Roadbuilding Progresses

Cut on the Annapolis-Washington Expressway requiring the removal of 611,000 cubic yards of earth. The white strips are concrete berm gutters designed to carry off rain water and prevent erosion of the slopes. The section depicted is just east of South River crossing. When completed, the

expressway will have 24-foot dual lines separated by a 50-foot landscaped parkway. The cost of the project, including the South River bridge, is \$1,395,172. C. J. Langenfelter & Son, Inc., of Baltimore and Nello L. Teer of Durham, North Carolina, both A.G.C., are the contractors.

Joint Committees Active

A national meeting of the N.A.-S.A.O.-A.G.C. Joint Cooperative Committee will be held in the Radisson Hotel, Minneapolis, October 2, 1950 at the aviation officials' annual convention.

A regional meeting of the Joint Cooperative Committee of the A.A.-S.H.O. and A.G.C. will be held in the Seelbach Hotel, Louisville, October 5-6 in connection with the meeting of the Southeastern Association of State Highway Officials.

Agenda for the first will include the effect of the international situation on the airport program, development of the defense program, review of airport development laws, price trends in construction costs and studies of airport financing.

The meeting with highway officials will emphasize importance of highway transportation in war, recommend highway building at a continued high rate, study cost trends and shortage of critical materials, review specifications, evaluate long-range highway studies, and will consider state public relations from the standpoint of the contracting industry's assistance.

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a process of elimination!

BUGGY RUNS ELIMINATED

With Rex Pumpcrete, you reduce labor costs since concrete is delivered through a pipe line right to the point of placement.

No "buggying" needed.

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Road building and maintenance . . . trestling and scaffolding . . . towers, etc. . . all these costly preparatory items are eliminated through Pumpcrete and pipe line flexibility.

"DEAD" TIME ELIMINATED BY STEADY PUMPING

Because you get steady pumping instead of the usual occasional large pours, you get the fastest, most advantageous forming and steel setting sequence . . . costly "dead" time is materially cut.

Rex Pumpcrete and pipe line flexibility are your economical answer to the high cost of materials and labor. With them you can substantially reduce costs . . . improve concrete quality through elimination of segregation . . . bid with assurance.

FLEXIBILITY ELIMINATES NON-PRODUCTIVE MOVING TIME

No need to waste time and money moving mixing equipment from spot to spot. Pumpcrete can be spotted in the one most advantageous job location and all concrete mixed at or delivered to it!

THE REX QUALITY CONSTRUCTION MACHINERY LINE...

- REX HI-DISCHARGE MOTO-MIXERS
- REX HORIZONTAL MOTO-MIXERS
- REX PUMPCRETE
- REX PAVERS

- REX "EASY FLOW" PUMPS

- REX 4-INCH DIA-PHRAGM PUMPS

- REX TILTER MIXERS

- REX MORTAR AND PLASTER MIXERS

- REX BUILDING MIXERS



For more information on the Pumpcrete or any other product in the Rex line, write to Chain Belt Company, 1625 West Bruce Street, Milwaukee 4, Wisconsin.

CONSTRUCTION MACHINERY

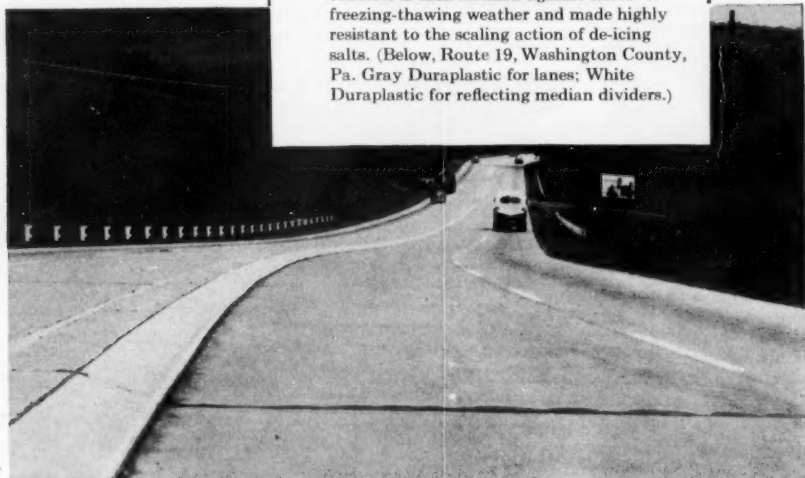


Better for paving work

Duraplastic air-entraining portland cement requires less mixing water for a given slump, makes concrete more workable, more plastic, more cohesive, more uniform. The mix dumps, spreads, screeds and finishes easily; allows finishing closer to paver, earlier protection for curing.

Makes more durable concrete

Duraplastic air-entrained concrete minimizes bleeding and segregation. Finished concrete is thus fortified against effects of freezing-thawing weather and made highly resistant to the scaling action of de-icing salts. (Below, Route 19, Washington County, Pa. Gray Duraplastic for lanes; White Duraplastic for reflecting median dividers.)



YET DURAPLASTIC* COSTS NO MORE

It sells at the same price as regular cement and requires no unusual changes in procedure. Complies with ASTM and Federal specifications. For descriptive booklet, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

OFFICES: Albany, Birmingham, Boston, Chicago, Dayton, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco.

*"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.

ATLAS **DURAPLASTIC**
AIR-ENTRAINING PORTLAND CEMENT

Makes Better Concrete at No Extra Cost



"THE THEATRE GUILD ON THE AIR"—Sponsored by U. S. Steel Subsidiaries—Sunday Evenings—NBC Network

» MEMBERS OF The Associated General Contractors of America have been urged to enroll in the annual accident prevention contest sponsored by the association, which begins anew on October 1, 1950. The current contest will end with reports of participating firms for the 12-month period ending on September 30.

In urging wider participation in the contest, A.G.C. Safety Director Harry J. Kirk pointed out three advantages that will accrue to contestants:

The general contractor will (1) let his employees and the public know that he values the safety of his workmen and the public; (2) build employee and public good will; and (3) advertise the fact that, as an A.G.C. member, he favors "an ounce of prevention" rather than "a pound of cure."

"The association has conducted these contests over the years, urging its members to adopt definite programs of accident prevention and offering yearly awards for the best comparative records of conservation of life and limb among employees," said Mr. Kirk.

"Experience has shown that the best way to prevent accidents is to plan so they will not happen. It has been proven that accident prevention programs pay dividends to both contractors and employees."

Forms for enrollment in the new contest year beginning October 1 have been mailed to A.G.C. chapter and branch offices, and to firms participating in the current competition. Others may obtain them on request to their chapters.

60 Awards Scheduled

Approximately 60 awards will be presented to winners in the current contest at the 32nd annual convention of the A.G.C. at Boston early next year.

The list of winning classifications to receive either handsome certificates suitable for framing, or trophies, follows:

Occupational Divisions—18 Awards. Contestants in each of the three divisions—Building, Highway, and Heavy and Railroad Contractors—are divided into two groups. Group A in each case consists of those with above the average man-hour exposure, and Group B, those with below the average man-hour exposure.

First place winners in the two cate-

A.G.C. Firms Urged to Enter Next Annual Safety Contest

- Current Competition Ends with September Reports
- Kirk Outlines Advantages to Participants

gories in each division are presented etched bronze trophies, and the second and third place winners are given award certificates.

Best Five-Year Record—Six Awards. Under this classification, all contestants are divided into two sections—those with above, and those with below the average man-hour exposure for the five-year period. Three awards are made in each section, totaling six.

Best 10-Year Record—Six Awards. The same procedure is followed as in the five-year competition.

No Lost Time Accidents. Every contestant whose record shows no lost time accidents for the contest year is awarded a certificate, whether his firm has high or low man-hour exposure. Twenty-eight of these awards were made at the conclusion of the 1948-49 contest.

Chapter Awards. First, second and third place awards will be made to chapters on the basis of the percentage of their members finishing in the contests. The chapters are divided into two classes—those with more than 35 members, and others with less.

Memphis Conducts Successful Contest

- Thirty Firms Participate; Superintendents in Competition

The Memphis Chapter, A.G.C., recently awarded attractive plaques and more than \$1,000 in prizes to superintendents of member companies at the end of a six-month accident prevention contest. Walter L. Couse, Detroit, national president of the A.G.C., presented the plaques to the winners and the cash to their wives.

Conceived by a committee of five from the chapter, headed by Grover Estes, the program was initiated after cooperative meetings with union business agents and insurance company safety engineers.

The contest drew 30 members, all requiring their superintendents to attend a safety meeting at least monthly

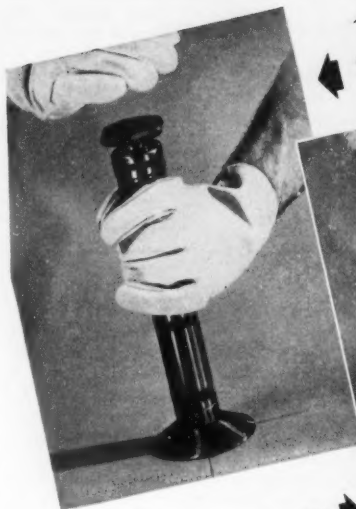


Memphis Press-Scimitar Photo

A.G.C. President Walter L. Couse, Detroit, is shown presenting plaque to first place winner W. C. Jenne, Jr., in the Memphis accident prevention contest. At the same time, Mr. Couse presented the \$300 cash award to Mrs. Jenne.

IMPROVED Ramset Tool

FASTENS FASTER, EASIER
into steel or concrete



◀ TAP IT ...



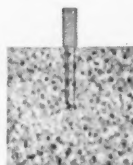
OR TURN IT ▶

Select the operating method that best fits the work. Load the tool with your choice from RAMSET'S 76 steel drive pins and threaded studs. Then **TURN IT ...** or **TAP IT!** The improved RAMSET DUAL-ACTION TOOL fastens instantly into steel or concrete. Only RAMSET gives you this *dual choice*... plus many other important advantages that make RAMSET the outstanding method for fast, easy, economical fastening. Ask for details and 15-minute demonstration of how you save time, money, trouble with dependable RAMSET FASTENING SYSTEM.

Ramset Fasteners, INC.

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PIONEER IN POWDER-ACTUATED FASTENING



ACCIDENT PREVENTION

during the contest, and to conduct a five-minute safety meeting on their jobs at least every two weeks. A labor safety committee of three was appointed on each job to notify the superintendent of any hazards.

On each job, the superintendent was required to keep posted in his office a placard, with record of the number of man-hours worked, the number of lost time accidents, the number of days lost, and his standing in the contest which was furnished him monthly by the chapter office. Each superintendent also was furnished an identification card with a definition on the back of lost time accidents and a list of the cash awards.

Contest Winners Named

First place winner was W. C. Jenne, Jr., of S & W Construction Company, who boasted 99,947 man-hours worked with no lost time accidents.


Winners in addition to Mr. Jenne, and their companies, were:

C. W. Saffell, Seth E. Giem & Assos.; Joe D. Thornton, of John M. O'Brien; R. C. Grady, Dougherty-Liddell Construction Company; T. S. Ellis, P. W. Jameson Construction Company; T. C. Allen, McNeese Construction Company; W. E. Spencer, Building Constructors, Inc.; Howard Haglin, S & W; H. T. Gossett, S & W; A. H. Walker, Foster & Creighton Company; W. E. Watson, S & W; A. R. Lee, Frank H. Lee & Company; Ed Bell, Dougherty-Liddell; L. O. Cooper, of Giem; W. E. McPherson, Building Constructors; L. E. Couch, L & M Construction Company; Ray Forsythe, H. A. McGuire & Company; Dale Workman, of Giem; E. E. Powell, L & M; L. Q. Ray, E. W. G. Meers Construction Company; B. A. Williams, L & M; George B. Stryker, Robert C. Crouch & Company; B. E. Boydston, Wessell Construction Company; and W. S. Atkins, W. L. Sharpe Contracting Company.

Cash prizes ranged from \$25 to \$300. Among speakers were Lee Case, Tennessee Labor Commissioner, and Harry J. Kirk, A.G.C. Safety Director.

Grover Estes acted as master of ceremonies at the banquet at Hotel King Cotton, and George Wible, vice president of the chapter, presided.

The program was handled with acumen, received good newspaper, television, and radio coverage. President of the chapter is Sol Lipman, and secretary-manager, W. W. MacLaughlin, Jr.



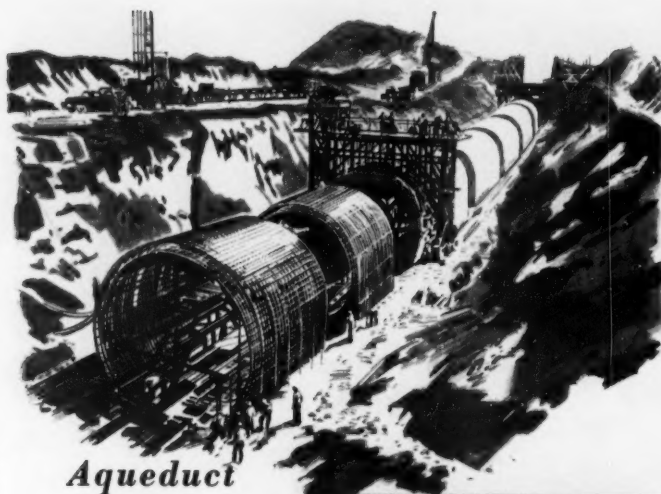
Digging Ditches deeper and faster

The Hyatt Roller Bearings in the transmission of Buckeye Traction Ditchers provide high-load carrying capacity, long life, quiet operation, minimum power and maintenance requirements and wide flexibility in design and assembly procedures.

Built by Garwood Industries, this ingenious machine digs ditches deeper and faster with the assurance that its Hyatt equipment will help keep it on the job continuously.

Because both machinery builders and users have come to realize that when Hyatts go in, bearing wear and care go out. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

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No job too big . . .
No job too small
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Bond Service

Wherever he operates, whatever the size of his job, however complex are the problems it involves — the contractor who deals with the Ætna Casualty and Surety Company can rely on prompt, intelligent bonding service.

This company has the resources, the nationwide facilities and the technical experience to deal intelligently with any type of contract. Its reputation for progressive policies and financial strength commands the respect of architects, engineers, owners and public officials in every part of the country.

So whether it's a jumbo project or just a routine job, call on your local Ætna Agent for superior contract bond service. He represents one of the leaders in the surety field.

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ÆTNA CASUALTY AND SURETY COMPANY

The Ætna Life Affiliated Companies write practically every form of insurance and bonding protection

LIFE AND CASUALTY

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Ætna Life Insurance Company

Automobile Insurance Company

Ætna Casualty and Surety Company

Standard Fire Insurance Company

Hartford 15



Connecticut

ACCIDENT PREVENTION

Terteling Speaks on Safety

Speaking at the recent Western States Safety Conference, J. A. Terteling, of J. A. Terteling & Sons, Inc., Boise, Idaho, reviewed the accident prevention efforts of The Associated General Contractors of America from the time of their inception.

Mr. Terteling, who has been active in A.G.C. safety programs, said up to \$500 million could be saved annually in construction if all accidents were prevented, and expressed the opinion that at least one-half of them can be eliminated.

"If we, as contractors, do not take a more active leadership in accident prevention, then we can expect complete local and national supervision."

Charging that the construction industry "appears to be eligible for any form of taxation or ruling which anyone can conceive," he contended that social legislation should be in a class by itself, and various coverages outside of employment should not be tacked onto accident insurance rates.

In addition to the humanitarian phase of accident prevention, Mr. Terteling pointed out the incalculable costs of accidents in the stoppage of work and attendant confusion.

Joint Effort with Engineers

To promote a better understanding between contractors and engineers and to establish a better accident prevention program, Colonel O. E. Walsh, Division Engineer, U. S. Corps of Engineers, invited the seven chapters of The Associated General Contractors of America which comprise the Northwest Branch to a safety meeting July 11.

Chapter representatives agreed that their organizations would assist in publicizing a joint safety effort and that a standing committee would be selected to work with the engineers in furthering a more effective accident prevention program. Uniformity of job inspections was one of the important points stressed at the meeting.

G. W. Maxon, Dayton, Ohio, vice president of The Associated General Contractors of America, will speak at the meeting of the Construction Section of the National Safety Congress scheduled for October 17-18 at the Stevens Hotel in Chicago.

As a crane the Link-Belt Speeder is beautiful to operate... As a shovel it is a brute for production

listen to me:



LINK-BELT SPEEDER



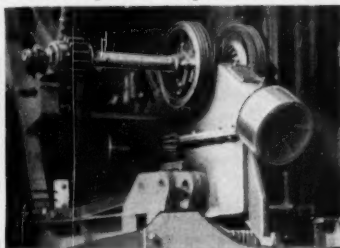
Don't take my word for it, — I only get reports from operators, like Fred Scanlan of Welso Construction Co., Chicago. Fred has been operating Shovel-Cranes for 35 years. His latest job is pouring concrete on two seven-story housing buildings. He is using a K-365 with 90' boom, 20' jib and 1½ yard bucket. But let him tell it: "This K-365 is the easiest machine I ever operated. The Independent Rapid Boom Hoist is the ticket for this type of work. And there's nothing like the K-365 for moving in close quarters. Handling concrete requires careful and close spotting: this is easy with Speed-o-Matic controls. And with all this I can reverse the machinery with a load."

That's a kind testimonial, Fred, and we thank you. There are other advanced engineering features of the K-360 and K-365 Shovel-Cranes that make these machines outstanding in their class. Ask your Link-Belt Speeder distributor about them.



12,078

The Independent Rapid Boom Hoist



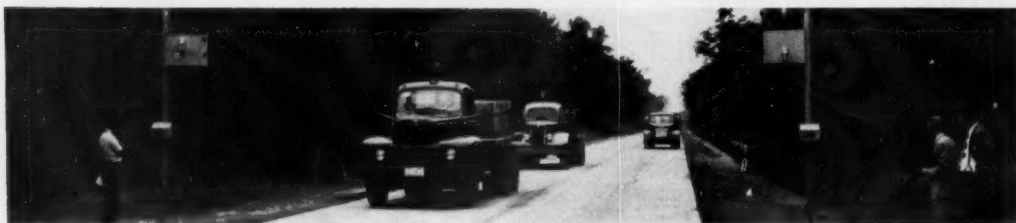
(Optional Equipment) This is a "Safety-type" independent friction clutch operated rapid boom hoist, power controlled both up and down. Worm gear is totally enclosed, running in oil, with automatic safety brake.

LINK-BELT SPEEDER



LINK-BELT SPEEDER CORPORATION,
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Builders of the Most Complete Line of
SHOVELS-CRANES-DRAWLINES



Garrison HYDRAULIC STEERING BOOSTERS

Provide...

**FASTER
PERFORMANCE
ON SHORTER
TURNS**



**INCREASES
MAN HOUR
EFFICIENCY**



**REDUCES
ACCIDENTS
AND
DRIVER FATIGUE**



Increased efficiency in both operator and equipment performance makes Garrison Hydraulic Steering Boosters a profitable investment. Recognized by Safety Departments of "Off-The-Highway" operations for the protection of operators, Garrison Steering Boosters reduce accidents caused by "wheel fight" and assure greater steering control in emergencies.

One installation will prove to you and your operator the efficiency gained by Garrison Hydraulic Steering Boosters. Installations can be made on most heavy duty trucks, wheel tractors, truck cranes, graders.

WRITE FOR INFORMATION TODAY

Garrison MANUFACTURING CO.
1506 SANTA FE AVE., LOS ANGELES 21, CALIF.

Research Board's Road Test Is Well Under Way

Tests to show the performance of a concrete pavement under operation of commercial type vehicles loaded at 18,000 and 22,400 pounds per single axle and 32,000 and 44,800 pounds on tandem axles are being conducted by the Highway Research Board on a 1.1 mile section of US 301 near La-

Plata, Maryland.

The project was launched late in May and valuable road-wear information is being gathered and is in the process of tabulation.



Taking Test Core

Cooperating with the Highway

Research Board is the Bureau of Public Roads in providing personnel and instruments for measurements of surface roughness, slab strains and deflections caused by the test loads, for soil surveys and other instrumentation and testing services. Others participating are the petroleum industry, truck manufacturers and the Department of the Army, together with the highway departments of 11 states and the District of Columbia.

Operations on the test are conducted around the clock with each pair of the eight trucks in use operating over different sections of the road so as to permit comparative study. The schedule calls for an average frequency of somewhat more than one truck per minute on each of the four sections.

Full information on the test, officially known as Road Test One-MD, may be obtained by applying to the Highway Research Board, 2101 Constitution Avenue, Washington, D. C.



Weighing Truck



Turnpike Extension Crosses the Susquehanna

Stretching its steel fingers across the Susquehanna River below Harrisburg, this new structure is an important link in the 100-mile-long Philadelphia Extension of the famous Pennsylvania Turnpike.

It is a continuous girder bridge, 4526 ft long, consisting of 46 spans. Its 436-ft girders are continuous over four piers which are spaced at intervals of about 109 ft. The structure is 61 ft wide, and has facilities for four lanes of express traffic, plus walks for pedestrians.

Construction of the superstructure of the Susquehanna River Bridge involved the fabrication and erection of 6727 tons of steel, all of which was handled by Bethlehem.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

FABRICATED STEEL CONSTRUCTION

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation

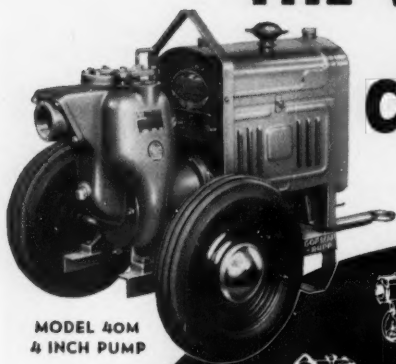
Export Distributor: Bethlehem Steel Export Corporation



Owner: Pennsylvania Turnpike Commission. Designing Engineers: Parsons, Brinckerhoff, Hall & Macdonald, New York. General Contractors: Booth & Flinn Company, Pittsburgh



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4 INCH PUMP



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Gorman-Rupp answers your Pumping Problem

Come to us with your pumping problems. We can furnish you with any size of self-priming centrifugal pump ranging in capacity from $\frac{3}{4}$ inch, 1000 GPH to the big 10 inch, pumping 240,000 GPH.

Gorman-Rupp Pumps are GUARANTEED in plain language by us and our distributors. They will pump more dirty water, more hours with less gasoline, will prime quicker and at higher suction lifts than any other self-priming pump. Write us about your pumping problems — ask for a copy of our guarantee.

*New Contractors' Pump Bulletin 8-CP-11
furnished on request.*



CHAPTERS • BRANCHES

Roadbuilders to A.G.C.

An agreement has been reached between the two organizations whereby most members of the Carolinas Road Builders Association are expected to become active or associate members of the Carolinas Branch of The Associated General Contractors of America.

The road builders association will continue as an organization until the end of this year, but its charter in the American Road Builders Association is expected to be assumed by the A.G.C. Carolinas Branch as soon as formalities can be completed.

The Carolinas Branch will waive initiation fees for firms which file for membership the balance of the year.

The Board of Directors early in August voted these changes in titles:

Robert Patten, who was formerly executive secretary, becomes managing director. James Pou and Robert Austin, formerly assistant executive secretaries, are now titled, respectively, manager, Building Contractors Division, and manager, Highway and Heavy Contractors Division.

Apprentice Training Award

In commenting on the A.G.C. apprentice training activity award announced in the August *Constructor* (page 44), Rudolph W. Weitz, Des Moines, Iowa, chairman of the A.G.C. Apprenticeship Committee, says:

"It is my sincere hope and that of our committee that chapter secretaries and managers will interest themselves in this contest to the end that added stimulus will be given to apprentice training upon which depends our supply of skilled construction men. I cannot stress too strongly the importance of apprentice training which must be continuously and vigorously carried on if we contractors are to be able to successfully carry out our responsibilities to the building public."

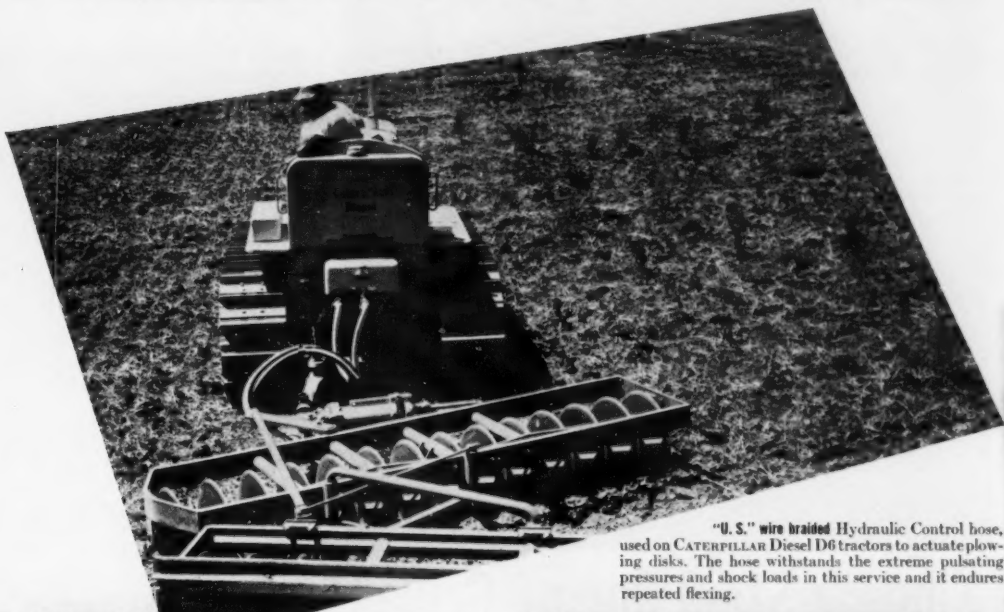
H. A. Bloedel Retires

Henry A. Bloedel, treasurer of the Master Builders Association of Allegheny County, A.G.C., has announced his retirement.

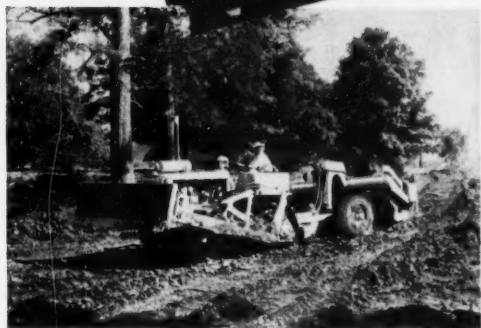
He has devoted 53 years to the building business and 26 years to the association office he is now leaving. Mr. Bloedel was also treasurer of the Building Trades Employers Association of Allegheny County.

VEINS FOR HIGH-PRESSURE HYDRAULIC SYSTEMS

U. S. Rubber hose transmits power from "Caterpillar"
Diesel Tractors to dam, road-building, and farm equipment



"U. S." wire braided Hydraulic Control hose, used on CATERPILLAR Diesel D6 tractors to actuate plowing disks. The hose withstands the extreme pulsating pressures and shock loads in this service and it endures repeated flexing.



Building dams for farm ponds in soil erosion is among the many hydraulic applications of the "U. S." Hydraulic Control hose. On such equipment as hydraulic lifts, bulldozers, snow plows . . . this hose proves its resistance to abrasion and the action of oils, greases, and solvents.



Scraper building a timber access road uses "U. S." braided Hydraulic Control hose. The weather-resistant, oil-resistant neoprene cover is bonded tightly to carcass. High hydrostatic strength is built into the hose through the use of high tensile braided steel wires.

When you work with any kind of hydraulically activated equipment, make sure you get full thrust and steady power by using United States Rubber Company's hose. And if you have an unusual problem, ask "U. S." technicians to work it out for you. Write to

PRODUCTS OF

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SERVING THROUGH SCIENCE

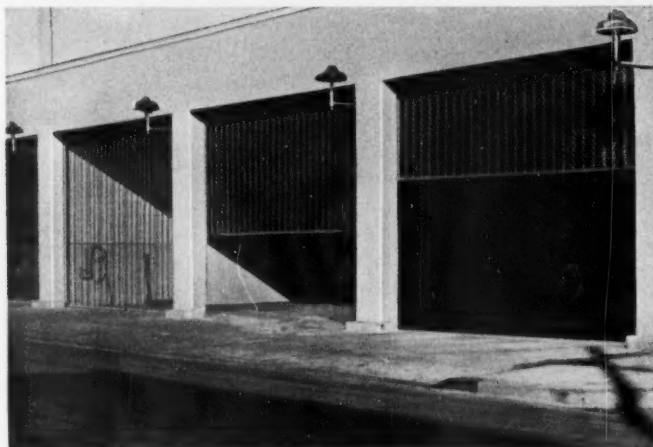
UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION, ROCKEFELLER CENTER, NEW YORK 20, N. Y.

CONVENIENT**ATTRACTIVE****ALL-STEEL**

Protection

that doesn't cut off light, air or vision



Kinnear Steel Rolling Grilles

For Windows, Doorways, Corridors

This all-metal barricade guards any opening with a curtain of rugged steel rounds and links. Yet it doesn't cut off light, doesn't block vision, doesn't impede ventilation. It can be lowered into place or raised out of the way in a matter of seconds! It offers convenient protection without loss of architectural beauty. As the pictures here testify, it's the ideal way to prevent trespassing in areas where the public assembles, or wherever it is desirable to block off certain sections of a building.

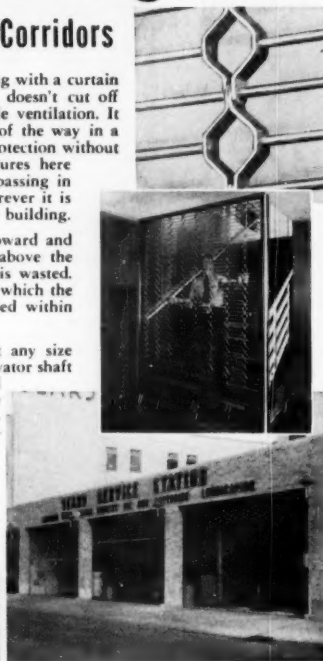
Kinnear Rolling Grilles open straight upward and coil into a small, out-of-the-way space above the opening. No usable floor or wall space is wasted. In many installations, the mechanism on which the Grilles coil when opened can be concealed within the lintel construction.

Kinnear Rolling Grilles are made to fit any size window, doorway, corridor, stair-well, elevator shaft or other opening. They can be equipped to operate manually, mechanically (by chain or crank) or electrically. Easily installed in old or new buildings. Write for complete details.

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CHAPTERS • BRANCHES

W. Va. Playground Project

"Operation Coonskin" at Charleston, West Virginia, is a fine example of the advantages the public may derive from the combined efforts of local businessmen working harmoniously for the benefit of their community.

What was once a useless, 800-acre tract of hill and valley in Kanawha County, West Virginia, has been transformed into a superb playground for children. In just two days' time, two miles of road, picnic shelters, benches, two fishing ponds, fireplaces, rest rooms, and a dancing pavilion were built by members of the Associated General Contractors of West Virginia, the West Virginia Contractors Association, and the Associated Equipment Dealers.

Chairman for the project was Paul R. Anderson, president, Andersons', Inc., A.G.C., of West Virginia.

The Kiwanis Club of Charleston adopted a resolution expressing appreciation to those who participated in the community benefit.

Van De Mark Honored

Honorary life membership has been conferred upon Otis Van De Mark by the board of directors of the Houston Chapter, A.G.C.

Mr. Van De Mark, now retired, was vice president of The American Construction Company, A.G.C. and has long been active in local and national affairs of the association. He served two terms as president and several years as a director of the Houston chapter. At present he is serving on the Labor Committee of the national association.

A presentation ceremony will be held at a later date.

Two Members Die

The death of two members, Tom D. Tryer, president, Washington Asphalt Company, Seattle, and Joe Fiorito, president, Fiorito Brothers, Seattle, was announced by the Mountain Pacific Chapter, A.G.C.

Mr. Tryer was a past president of the chapter and had been very active in highway construction. Mr. Fiorito, who had been a member of the chapter since 1934, is succeeded in his company by his son, Dan.

New Hampshire Executive



Rowland Oakes

The appointment of Rowland Oakes as executive secretary of the Associated General Contractors of New Hampshire has been announced by Parker Rice, the chapter's president.

Mr. Oakes was formerly employed by a paint manufacturer and has been very active in associations and organizations in the New Hampshire area. He is a past president of the New Hampshire Paint Trade Salesman's Club and is a member of the Kiwanis Club and the Masonic Fraternity.

New Mexico Manager

Clyde O. Faulk, the newly appointed manager of the Associated Contractors of New Mexico, most of the members of which are highway contractors, comes to his job with a wealth of experience.

After graduating from Louisiana State University in 1917, Mr. Faulk served with the United States Army Air Corps in England, France and Italy. Discharged with the rank of captain, he then began a long term of service with the New Mexico State Highway Department in a variety of capacities ending with office engineer.

In 1947 he became Registrar for the New Mexico Contractors License Board, his last position before coming with the New Mexico Chapter.



"TICKLISH JOB"

for hoe and crane operators

Close quarters, low hanging trees, pipes criss-crossing trench path . . . that made trenching a ticklish job for the hoe operator. And the crane operator's job was just as critical. Working in cramped space where boom couldn't be raised above cab top required exceptional control to place gas main sections under the small cross pipes.

But the job was done . . . and done profitably and easily with a MICHIGAN crawler and a MICHIGAN truck crane by William W. Adams, Inc., general contractors of Tenafly, New Jersey. That's why George Adams says . . .

"I like MICHIGAN . . . I wouldn't have bought three of them otherwise. They are very easy on maintenance and easy on the operators."

Comments like these are typical from profit-wise contractors everywhere. Next time you need an excavator crane . . . investigate MICHIGAN and you'll agree it's your best buy! Write, wire or phone for full details.

MICHIGAN POWER SHOVEL COMPANY

485 Second Street, Benton Harbor, Michigan, U. S. A.

Earth-Moving Machines—Caterpillar Tractor Co., Peoria 8, Ill. Early production of new DW20 tractor with W20 wagon and of DW21 equipped with No. 21 scraper is announced by Caterpillar. Both DW20 and DW21 prime movers have new 6-cylinder Caterpillar diesel engine rated at 275 h.p. peak capacity at 2,000 r.p.m. and 225 h.p. at 1,900 r.p.m. available at flywheel. New engine has $5\frac{1}{8}$ " x

6" bore and stroke with 743 cu. in. piston displacement. Governor is provided to control low idle speeds. All working speeds are controlled by foot throttle. Independent 2-cylinder gasoline starting engine with 6-volt electric starting system is provided as standard equipment. DW20 has 5 forward speeds from 2.88 m.p.h. to 26.60 m.p.h. and one reverse of 3.72 m.p.h. DW20 is 4-wheel tractor with

wheelbase of 128" with front tread at 88" and rear tread at 84". Overall length of tractor with matched wagon is 45'8", height is 10'2". Bottom-dump W20 wagon has struck capacity of 17.0 cu. yds. and heaped capacity of 25 cu. yds. Doors are hydraulically controlled with positive mechanical lock. Wagon body is higher at front, with downward slope toward rear. Length of hopper measured from top inside is 15'. Width is variable with average of 8'5". Off-road, traction-type tires are standard for both tractor and wagon. Front tractor tires are 14:00x24, 20-ply, and rear tires, which are interchangeable between drive and wagon wheels, are 24:00x29, 24-ply. Tractor-wagon combination has 8'6" tread width. Also available for DW20 are cable-controlled No. 20 scraper, with struck capacity of 15 cu. yds. and heaped capacity of 19½ cu. yds., and No. 20S bulldozer with blade length of 12'6" and height of 47". New No. 27 rear double-drum cable-control unit



*There are many reasons
why it REPEATS*

...and they are important
to every wire rope user

Because it gives results, "HERCULES" (Red-Strand) Wire Rope is called on for many "repeat" performances—no matter what the job—by the men who use it.

"HERCULES" (Red-Strand) Wire Rope is the product of over half a century of manufacturing experience. Made of acid open hearth steel wire, its uniformity is maintained by advanced methods of manufacture, rigid tests and careful inspections—giving it the correctly balanced combination of strength, toughness and durability.

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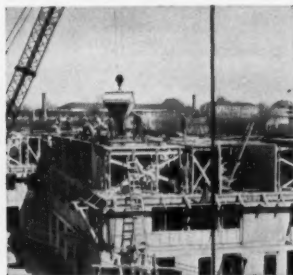


Caterpillar DW20 with W20 wagon

will operate bulldozer. Two-wheel DW21 has 5 forward speeds from 2.16 m.p.h. to 20.0 m.p.h. Reverse speed is 2.79 m.p.h. Over-all length of tractor-scraper combination is 40'7"; width is 11'6"; height is 10'7"; wheelbase is 24'7". Wheel tread is 84". Bar tread tires, interchangeable between tractor and scraper, are 24:00 x29, 24-ply. Positive hydraulic follow-up steering, 90° each way, is provided. Cable-controlled No. 21 scraper has struck capacity of 15 cu. yds.; heaped capacity of 19½ cu. yds.; 9'6" cut. Struck capacity may be increased to 18 cu. yds. and heaped capacity to 22½ cu. yds. by means of 12" sideboards.



DW21 and No. 21 scraper



UNIVERSITY OF CONNECTICUT'S UNIQUE DORMITORY DESIGN

• Dormitories are built of precast concrete panels and reinforced concrete floors. Load bearing exterior and corridor panels support floors. All panels, including room partitions, are locked into place by floors and by spandrel beams around perimeter of buildings at each floor level. Exterior wall panels are veneered with cast stone to second floor and with brick above. Lower left photo: Method of casting corridor wall panels in stacks on the ground. Lower right photo: Exterior wall panels for each floor are precast on shoring deck for floor above.

Lost time regained ... with LEHIGH EARLY STRENGTH CEMENT

When construction was started on the seven 4-story women's dormitories for the University of Connecticut, unfavorable fall weather was just beginning. Operations were hampered—job progress was slow. And winter weather was still ahead.

To complete the job on time, Frouge Construction Company, the contractors, stepped up their schedule with Lehigh Early Strength Cement. This is what happened: Lost time was soon made up . . . and because of the faster schedule, form costs were cut by one-fourth, labor costs by one-third.

Here are three examples of how Lehigh Early Strength Cement helped to make these time and cost savings: Exterior wall panels were ready to be dropped into

position the day after they were cast. Corridor panels, cast in stacks on the ground, were ready to install when needed. Twenty-four hours after floors were poured, removal of shoring began. By the fourth day, all shoring was reset for the floor above, ready for installing partitions and casting exterior wall panels.

This actual case history proves again: You can save construction time—cut construction costs—with Lehigh Early Strength Cement. Our Service Department will be glad to help you with your specific problems.

LEHIGH PORTLAND CEMENT COMPANY

ALLENTOWN, PA. • CHICAGO, ILL. • SPOKANE, WASH.

THE JOB: Construction of seven 4-story Women's Dormitory buildings. Cost, \$2,500,000.

LOCATION: University of Connecticut, Storrs, Conn. **OWNER:** State of Connecticut. **CONTRACTOR:** Frouge Construction Co., Bridgeport, Conn. **ARCHITECT:** McKim, Mead & White, New York City. **STRUCTURAL ENGINEER:** Fred H. Severud, New York City. **READY MIX CONCRETE:** General Sand & Stone Co., Elmwood, Conn. **PRECAST PARTITION PANELS:** Dura Stone Inc., Saylesville, R. I.

Lehigh
CEMENTS

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THE CONSTRUCTOR, SEPTEMBER 1950

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Now You Can Get Maximum Work Capacity

But you require more than engine power alone . . . you must have stability. Every action has an equal and opposite reaction. The hook load limit is what your machine will lift without losing its stability. P&H excels in lower center of gravity . . . in better weight distribution . . . resulting in a higher ratio of lifting capacity in relation to gross weight. Thus, stability is actually a measure of lifting capacity. P&H gives you more of it. You can prove it for yourself.

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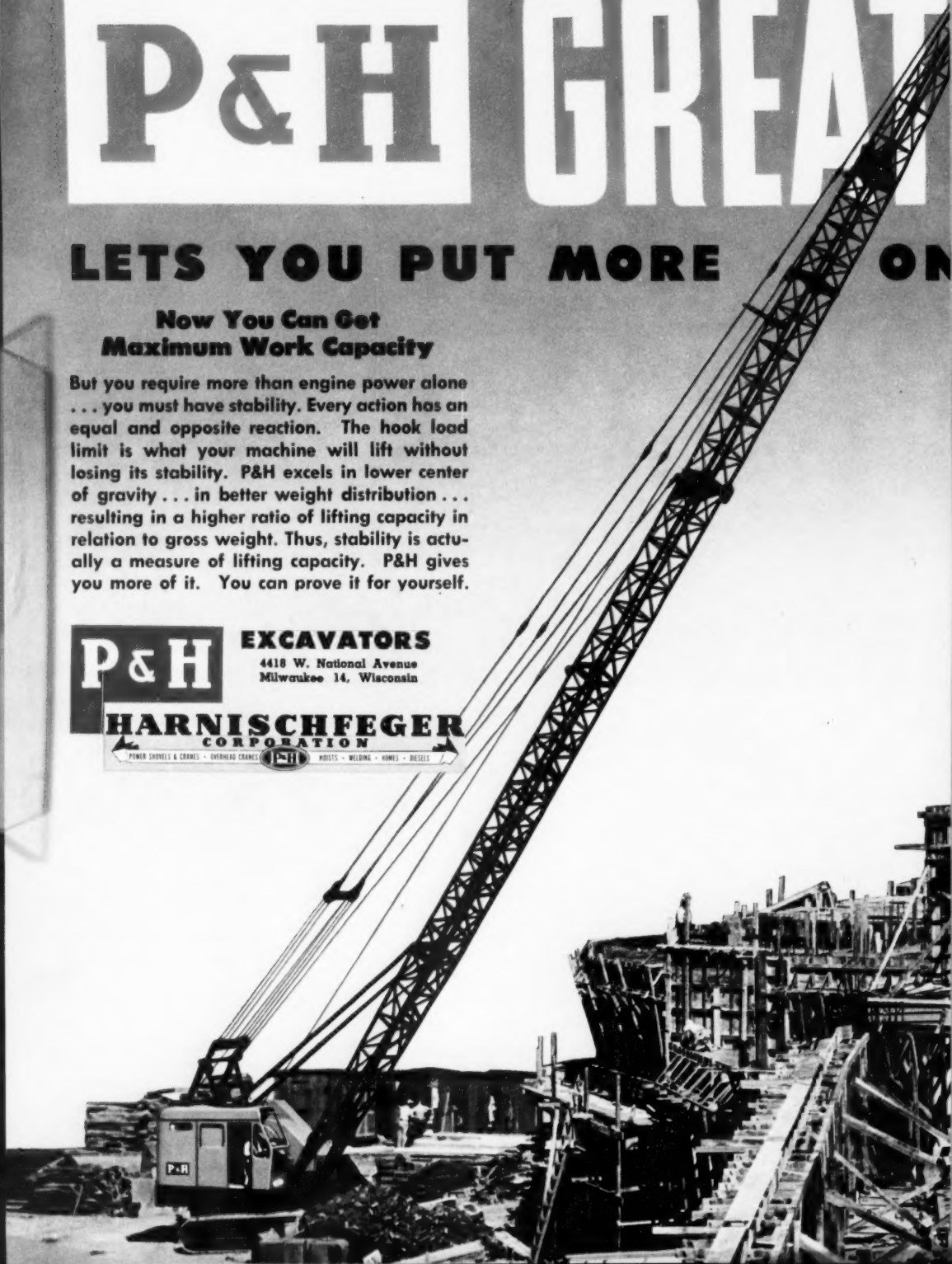
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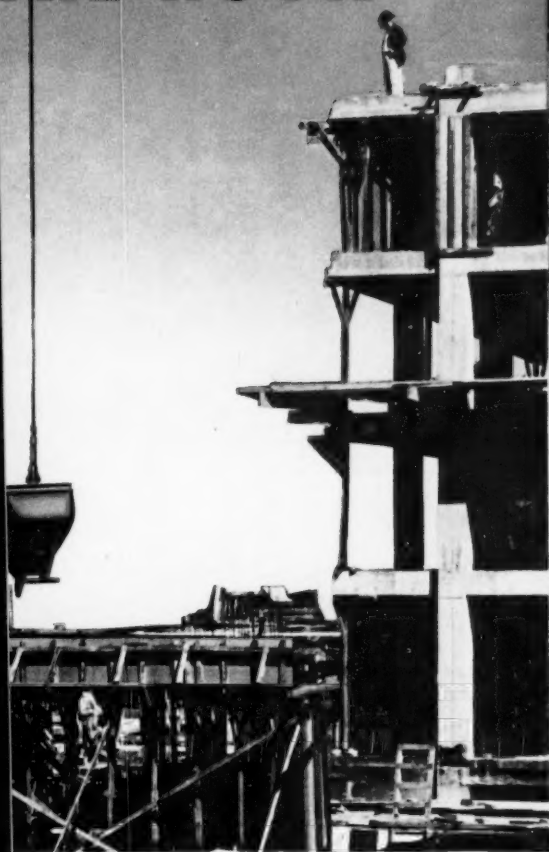


HOISTS • WELDING • RIGGING • DIESEL



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GIVES YOU MORE POWER AT THE TOOTH POINT

Stability is the major function of digging power, too. The same stability which gives P&H greater lifting capacity also gives you more tooth point digging power. Without useless deadweight, you have more power available... faster overall operation... lower production costs.

1. All welded construction of rolled alloy steels...originated by P&H... more highly developed by P&H.
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3. Low pressure hydraulic control is smoother... more responsive... easier on both operator and machine.
4. Rapid reversing planetary chain crowd gives you faster, more positive bite. Crowd chain outlasts 20 to 30 crowd cables.
5. Simpler design gives you an easier machine to work on... simplifies maintenance... reduces lay-up time... cuts costs.

Only P&H gives you these Added Value features and at no extra cost.

ASK YOUR P&H DEALER

P&H Excavators and Truck Cranes are more easily converted for the various types of service shown below—with hoist and digging drums on one shaft, the need for auxiliary shafts and gearing is eliminated. You also have a choice of gas, Diesel or electric power. Ask for literature on the size you need.



SHOVEL



DRAGLINE



BACKFILLER



CRAWLER CRANE



MAGNET CRANE



TRENCH HOE



PILE DRIVER



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COVERING IMPORTANT CONTRACTING PROCEDURE



Prepared by The Associated General Contractors of America and Cooperating Bodies

Order No.	MANUALS	Per Copy	Per Dozen	Per 100
1.	A.G.C. Manual (Contains documents listed below: Nos. 3-30, inclusive, and Nos. 34, 35, 36, 36A, 37, 38)	\$5.00	\$50.00	-----
2.	Accident Prevention Manual (Revised and enlarged 1949)	3.00	30.00	\$210.00

CONTRACTS

3.	Standard Contract for Engineering Construction issued by the Joint Conference on Standard Construction Contracts	.25	2.75	20.00
4.	Standard Building Contract of the American Institute of Architects—Revised 5th Edition	.50	-----	47.50
5.	Subcontract form—American Institute of Architects—Revised 5th Edition	.10	-----	9.50
7.	Standard Government Contract and Instructions to Bidders	.10	.50	4.00
8.	A.G.C. Cost Plus a Fee Contract	.10	.50	2.50
9.	A.I.A. Cost Plus a Fee Agreement between Contractor and Owner	.10	-----	-----
11.	Equipment Rental Agreement	.10	.50	3.00
12.	A.G.C. Proposal Form	.10	.50	3.00

ESTIMATING AND ACCOUNTING

16.	Building Estimate Summary	.10	.50	3.00
17.	Job Overhead Summary	.10	.50	3.00
20.	Contractors' Equipment Ownership Expense (Itemized tables of ownership expense elements with instructions for application. Revised 1949)	1.00	10.00	65.00
21.	Equipment Record—Bond paper	.10	.50	3.00
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24.	Standard Pre-Qualification Questionnaires and Financial Statements for Prospective Bidders—Complete in Cover Engineering Construction (For Qualifying Before Bidding)	.20	1.80	12.00
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MISCELLANEOUS

29.	Insurance Check List	.10	1.00	5.00
30.	The Functions of a General Contractor	.10	.75	6.00
35.	A.G.C. Code of Ethical Conduct	.10	.50	3.00
36.	Concrete Mixer Standards	Single copies—no		
36a.	Contractors' Pump Standards	charge; quantity		
37.	A.I.A. Standard Form of Arbitration Procedure	prices on applica-		
38.	Suggested Guide to Bidding Procedure	tion.		



FOR A.G.C. MEMBERS ONLY

A.G.C. EMBLEM

List of Styles and Prices on request.

SIGNS AND SEALS

40.	A.G.C. Metal Seal (red and black) 10" dia.	.40
41.	A.G.C. Decalcomania Seal (red and black)	-----
a.	10" dia.	.20
b.	5" dia.	.10

Metal Seals and Decals: 20% discount for orders of more than 50; 40% discount for orders of 200 or more.

43. A.G.C. SOCIAL SECURITY FORMS

Form SS1: Application for Employment;
Form SS2: Employees' History Record;
Form SS3: Employees' Employment and Earnings; Form SS4: Payroll. List of prices and styles will be furnished to A.G.C. members on request.

USE THE CONVENIENT COUPON TO PLACE YOUR ORDER

Order No.	Amount	Cost	11.	12.	16.	17.	20.	21.	22.	24.	25.	26.	27.	28.	29.	30.	35.	36.	36a.	37.	38.	40.	41a.	41b.	43.
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Make Checks payable to CONSTRUCTION FOUNDATION, A.G.C., Munsey Building, Washington 4, D. C.

Gentlemen: Enclosed find check for \$----- for which please send materials as ordered by number herewith.

Name-----Address-----

City-----Zone-----State-----

September 1950

NEW EQUIPMENT • MATERIALS

Scraper—Wooldridge Manufacturing Co., Sunnyvale, Calif. More powerful Cummins 225 h.p. engine and larger 24:00x25 24-ply low-pressure tires have been adopted as standard equipment for TC-S142 "Terra Cobra" self-propelled scraper. Other improvements include formed steel construction, 65" apron opening, curved ejector, increased ground clearance. Details and specifications are given in Bulletin TC-706, available from manufacturer.



New Wooldridge "Terra Cobra"

Roller—Gabb Manufacturing Co., Windsor Locks, Conn. "Motoroller" is now offered equipped with water tank, spray bars and cocoa mats for use when compacting bituminous concrete and other material which requires drums to be wet to prevent adhesion.

Shovel-Crane—Wayne Crane Division, American Steel Dredge Co., Fort Wayne, Ind. Model 20 1/2-yd. shovel-crane has 10-ton lifting capacity with extended outriggers and auxiliary counterweight. It has working weight of 30,360 lbs. as shovel. Single engine, gasoline or diesel, powers machine. Model 20 travels, lifts, booms and swings simultaneously or independently. It features full 360° operation, 7'8" wheelbase and short turning radius. Mounted on 4 sets of dual pneumatic tires, it travels at speeds up to 15 m.p.h.



Wayne Crane Model 20 1/2-yd. shovel

Galion DESIGN CONSTRUCTION PERFORMANCE

Add Up!

They Add Up To
SUPERIOR VALUE.

Galion Motor Graders give
you the utmost in . . . trac-
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and economical operation.

Write for
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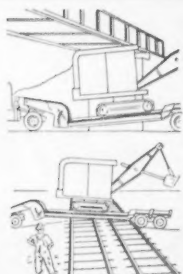
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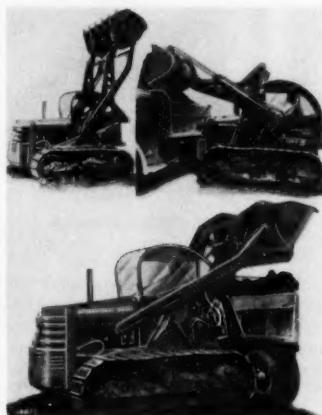
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NEW EQUIPMENT • MATERIALS

Tractor Shovel—Service Supply Corp., 20th and Erie Ave., Philadelphia 32. "Lodover" is one-yd. overhead loading and front-end loading tractor shovel for International crawler tractors. Attachments available include hydraulic dozer blade mounted inside tracks, hydraulic angle blade, lift fork, rear-mounted winch, crane boom (10,000-lb. capacity), snow-bucket, V-type snow plow. It is sold through International Harvester industrial power dealers.



"Lodover" for International crawlers

Scarifier—Kay-Brunner Steel Products, Equipment Division, 2721 Elm St., Los Angeles 65. Hydraulic scarifier for use on Hough "Payloader" utilizes hydraulic system of "Payloader." Ripper bar, which clears "Payloader" hitch when raised, has 5 adjustable shanks with H & L removable teeth. Specifications include: ripping width, center to center of outside teeth, 70"; penetration, 8"; raised height, 21"; teeth spacing, 17 1/2"; teeth shanks 1 1/2" x 3" x 18"; weight, 1,100 lbs. Present production of scarifier is for 3 1/4-yd. Model HF "Payloader." Scarifiers for other models will be available soon, manufacturer announces.

Panel—Masonite Corp., 111 W. Washington St., Chicago 2. New 1/4" "Panelwood" is designed for application directly to studding. Physical properties are: weight, 1.15 lbs. per sq. ft., caliper, .250", specific gravity, .85, tensile strength, 2,200 lbs. per sq. in., modulus of rupture, 4,100 lbs. per sq. in., 24-hr. water absorption, 14.5% by weight.



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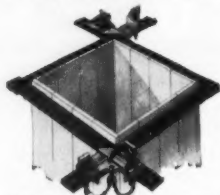
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At left is cross section view of tie.

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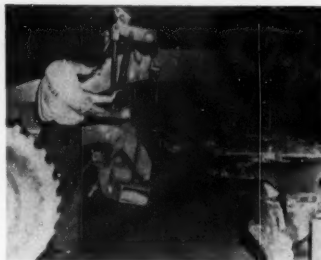
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NEW EQUIPMENT • MATERIALS

Puller—Coffing Hoist Co., Danville, Ill. New "Mighty Midget" hand-operated hoist or puller weighs 9½ lbs., handles 1,000-lb. load on lifting, stretching or pulling jobs. Handle may be used as straight lever or lower section may be locked at right angles to upper section, forming crank for lifting or pulling.



Coffing "Mighty Midget" puller

Lantern—Handlan, Inc., 615 S. First St., St. Louis. "Challenger" kerosene lantern has 33-oz. oil fount giving burning time of 200 hours using ¼" round wick and ruby fresnel globes. Lantern is made of heavy terne plate with bottom of fount double seamed and recessed. It measures 14¼" in height with base diameter of 6¾". Shipping weight is 40 lbs. per doz.

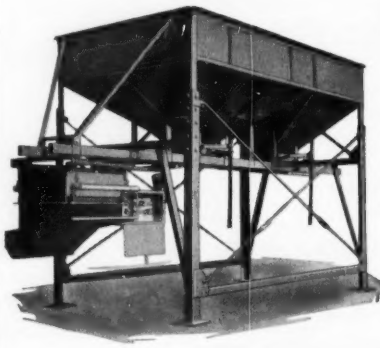
Electrode—Mir-O-Col Alloy Co., Los Angeles 31. Tungsten carbide electrode can be used with AC or DC welding machines. Coating covering core wire is impregnated with tungsten carbide particles of various mesh size for deposit of 60% tungsten and 40% iron.

Steel Columns—John Shoub & Son, 711 Jacksonia St., Pittsburgh 2. "Perma-Post," steel supporting column, is 4" O.D. anti-corrosive metal column, made from electric-welded steel, coated with special vinyl plastic to make it anti-corrosive. Posts are offered in 2 types: one is steel column of fixed length, available in standard sizes of 6½', 7', 7½' and 8'; second is adjustable "jack-type" model with which any desired height can be obtained. "Jack-type" can be used as temporary support or made permanent support by locking installation. Columns can be bolted into wood, steel or concrete.

Backfiller—Schield Bantam Co., Waverly, Iowa. Backfill blade attachment is designed for interchangeable operation with ¾-yd. truck-mounted Schield Bantam trench hoe. It consists of cable-operated steel blade mounted on wishbone dip stick with 2 tubular control arms which hold blade vertical to ground as it is pulled toward machine. Blade is 24"x60" with ½" reversible cutting edge. It has maximum reach of 23'6" in any direction and can work to within 6'6" of center of machine rotation.



Schield Bantam backfill blade



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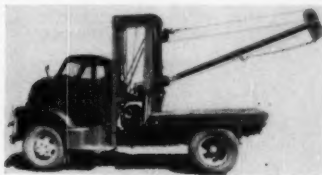
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Truck Crane—Pitman Manufacturing Co., 300 W. 79th Terrace, Kansas City 2, Mo. Hydraulically powered "Hydra-Lift" can be installed on any type of truck and used with any make winch, manufacturer states. It features positive action to permit accurate placing of loads, 180° boom swing, 100° lift, telescopic boom of heavy seamless steel tubing which can be telescoped from 11' to 20'. Outriggers are adjustable in height to allow for uneven terrain. Hydraulic system has operating pressure of 1,250 p.s.i. and can be run off fan belt or power take-off. As it rises, hydraulic boom automatically locks. Capacity of "Hydra-Lift" varies from 6,000 lbs. with boom at 11' to 2,500 lbs. with boom at 20'.



"Hydra-Lift" truck crane

Trencher—Parsons Co., Newton, Iowa. Model 221 "Trenchliner" digs 8½' deep and 16" to 36" wide in range of 12 cutting widths. It has arch type frame, offset boom that shifts by power for trenching within 1½" of crawler tread clearance on either side, arc-type discharge conveyor. It has selection of 15 digging feeds. It is equipped with 4 travel speeds and one reverse and 3 bucket line and conveyor belt speeds. Described in new catalog available from manufacturer.

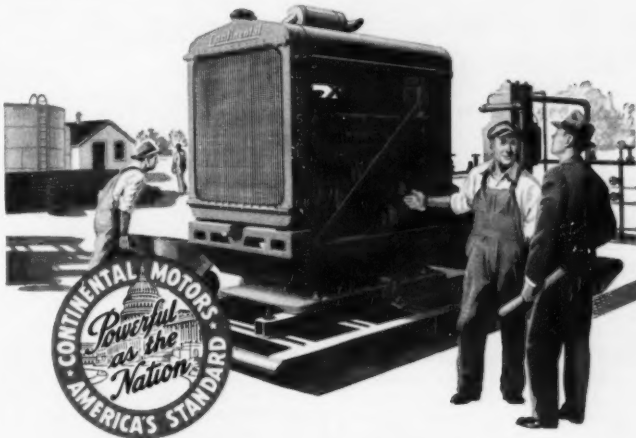
Expansion Joint—Owens-Corning Fiberglas Corp., Toledo 1, Ohio. "Fiberglas" expansion joint for concrete work is asphalt-impregnated, bonded glass wool board, faced on both sides with heavy asphalt-saturated kraft paper. Characteristics of "Fiberglas" expansion joint, manufacturer states, are: will recover more than 70% of original thickness within one hour; no loss of weight after compression; extrusion of free edge is less than ¼ of that permitted by state and federal specifications; absorption is less than ½ that allowed. New product will be sold through Fiberglas sales offices in cooperation with Keystone Asphalt Products Co., Chicago, national distributor for joint.

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NEW LITERATURE

Tractor—Caterpillar Tractor Co., Peoria 8, Ill. D7 tractor is presented in booklet (Form 12678) which describes all parts of machine, including engine, fuel system and lubrication system, and gives complete specifications.

"Zoned Equipment"—Caterpillar offers booklet, *Caterpillar Equipment Zoned for Profit* (Form 12933), which presents application of machines for high-speed hauling, middle-speed hauling and power operations. Photos illustrate representative uses for rubber-tired units, track-type tractor and scraper combinations and bulldozer, ripper and "Hystaway" operations. Power units suitable for pumping, crushing and for compressors, lights and draglines are pictured.

Concrete Buckets—Gar-Bro Manufacturing Co., 2416 E. 16th St., Los Angeles. Bulletin 95, entitled *Placing Concrete on Big Jobs*, describes 20 models ranging in capacity from 1/3 to 8 cu. yds. and lists complete dimensions, specifications and data on Gar-Bro line of concrete buckets. Two-compartment bucket with individually air-operated gates having total capacity of 8 cu. yds. is shown in action. Illustrated and described are such features as double clamshell gate design, self-closing spring-operated gates, discharge by remote control and center discharge.

Earthmover—The Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3. Catalog 4903 covers recently introduced new model "Gradall" earthmover. It describes new machine's operation, lists specifications and illustrates it at work on variety of jobs.

Shovel—Eimco Corp., Salt Lake City 8. Bulletin 1021 shows Model 104 "RockerShovel" working in sand and gravel operations. Featured is description of loading control. Specifications are given.

Pumps—Rice Pump & Machine Co., Grafton, Wis. Bulletin 50 covers Rice 3" 15M and 2" 7M and 10M self-priming centrifugal pumps. It

(Continued on page 76)

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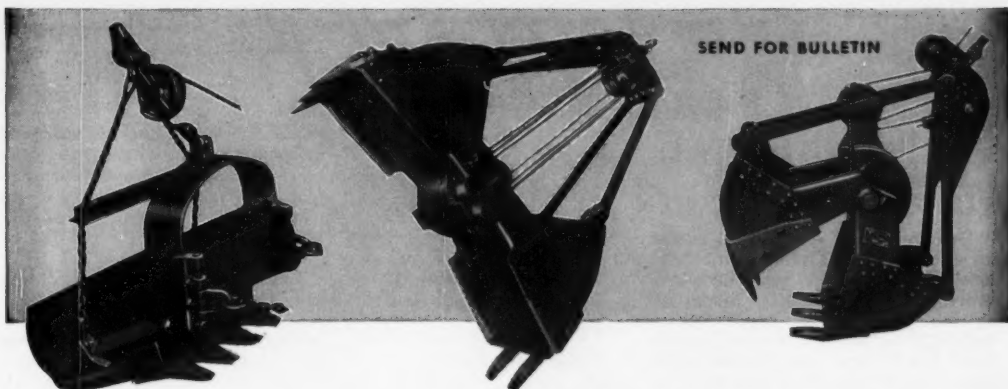
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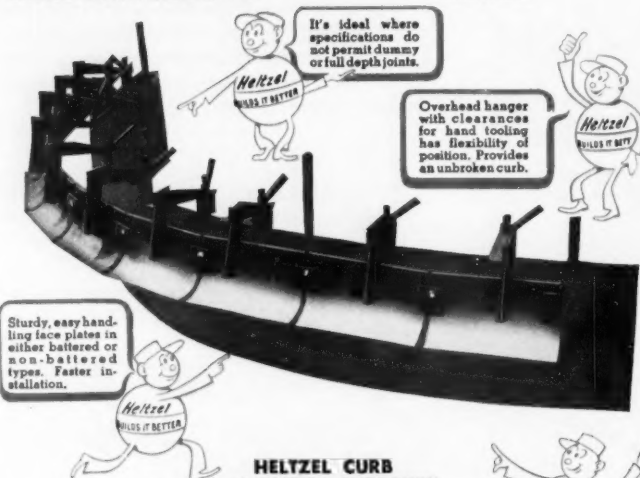
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NEW LITERATURE

describes such features as automatic priming, direct line flow, suction check valve built in, pre-lubricated cartridge seal, non-clogging impeller and wear-plate. Sectional view of pump is included together with specifications.

Doors—Detroit Steel Products Co., 3143 Griffin St., Detroit 11. *Fenestra Hollow Metal Swing Door Units* is title of new catalog describing 3 types of doors, including entrance doors and Underwriters' B-Label door units for both single or double openings. Door types include those hinged left or right, to swing in or out, with (1) single, large glass light in upper panel; (2) with upper panel divided by muntins into 2, 4, 6 or 8 glass lights; (3) with metal panel in both upper and lower part. Uses, installation steps, construction features, hardware and equipment are outlined. Types and sizes are charted.

Power Steering Boosters—Garrison Mfg. Co., 1056 Santa Fe Ave., Los Angeles 21. Series of leaflets present hydraulic steering boosters for specific makes of graders, trucks, tractors. Advantages of boosters in increased ease of steering are explained. Detailed installation instructions are given. Machines covered are Adams motor graders, Allis-Chalmers AD and BD motor graders, Euclid rear-dump and bottom-dump trucks, FWD 4-wheel drive trucks, International wheel-type tractors.

Grader—Allis-Chalmers Tractor Division, Milwaukee 1. New 34.7 h.p. Model D grader is presented in 2-color catalog. Action photos show machine doing bank sloping, ditch pulling, shoulder work, scarifying and road maintenance. Rear-end loader applications are presented. Features of grader and engine are presented. Special attachments are listed. Full page is devoted to specifications.

Shovels and Cranes—The Thew Shovel Co., Lorain, Ohio. "Lorain-TI" series of power shovels and cranes are presented in new catalog. It shows variety of crawler and rubber tire mountings available. Interchangeable units are illustrated. "Lorain-50" series of power shovels and cranes are presented in new catalog which shows such features as hydraulic coupling, new swing clutches, one-piece cast steel turntable bed, air controls for steering and tread lock.

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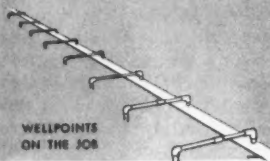
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MANUFACTURERS' NOTES

A. L. Carr, vice president in charge of production for the entire country of NATIONAL SURETY CORP., has transferred his activities to those of resident vice president, retiring from the duties of production vice president.

H. J. Hunkele, Jr., has been appointed assistant manager of sales engineering division, CATERPILLAR TRACTOR Co.

Bob Kirkman has been named manager of the Strand Garage Door Division of DETROIT STEEL PRODUCTS Co.

Harold R. Lucas, Jr., has been appointed assistant to General Sales Manager Philip Hill of the HYSTER Co.

Carl R. Rolf has been appointed assistant secretary and sales manager of PIONEER ENGINEERING WORKS.

W. H. Schneider has been elected vice president-comptroller of MACK TRUCKS, INC. He succeeds J. E. Savacool, who is retiring.

Alton H. Lundius has been appointed works manager in charge of all manufacturing and service operations at the Harrison and Clark Township plants of HYATT BEARINGS DIVISION of GENERAL MOTORS CORP. Robert R. Guempel has been appointed plant manager of the Clark Township plant. William H. Chapman has been appointed director of engineering to coordinate machine and product design, research and application engineering. Martin A. Moore has been appointed administrative assistant to the general manager. David B. Caminez has been appointed divisional comptroller.

Tractors for Iraq

A fleet of 20 International Model TD-24 crawler tractors equipped with 20- and 22-foot Superior-Cardwell pipebooms has been purchased by Bechtel-International Corp. for Iraq Petroleum Co. The fleet will be employed in construction of a 556-mile large-diameter pipeline from the great petroleum fields of Kirkuk in north-eastern Iraq to an outlet at Baniyas, Syria. The line will be constructed by Arabian Bechtel Co., an affiliate of Bechtel-International.

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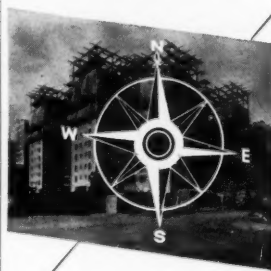
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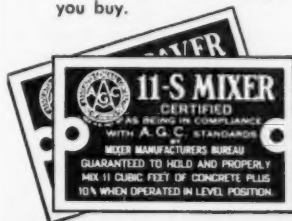
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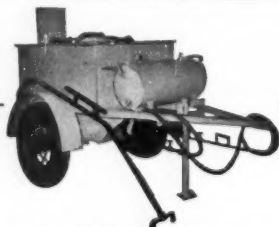
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Port Washington, Wis.

Laclede Steel Co.
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St. Louis, Mo.

Lehigh Portland Cement Co.
Allentown, Pa.

A. Leschen & Sons Rope Co.
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St. Louis 12, Mo.

R. G. LeTourneau, Inc.
Peoria, Ill.

Link-Belt Speeder Corp.
1201 Sixth St., S.W.
Cedar Rapids, Iowa

Lone Star Cement Corp.
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New York 17, N. Y.

Mack Trucks, Inc.
Empire State Bldg.
New York 1, N. Y.

Macomber, Inc.
Canton, Ohio

Marlow Pumps
Ridgewood, N. J.

McKiernan-Terry Corp.
18 Park Row
New York 7, N. Y.

Michigan Power Shovel Co.
Benton Harbor, Mich.

Midland Structural Steel Corp.
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Cicero 50, Ill.

Murphy Diesel Co.
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Milwaukee 14, Wis.

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Novo Engine Co.
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Lansing 5, Mich.

Oliver Corp., Industrial Division
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Cleveland 17, Ohio

Owen Bucket Co.
7750 Breakwater Ave.
Cleveland 2, Ohio

Parsons Co.
Newton, Iowa

Petibone Mulliken Corp.
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Ramset Fasteners, Inc.
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Cleveland 11, Ohio

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Grafton, Wis.

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Albion, Pa.

Joseph T. Ryerson & Son, Inc.
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Shunk Mfg. Co.
Bucyrus, Ohio

Sisalkraft Co.
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Chicago 6, Ill.

Skilsaw, Inc.
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New York 17, N. Y.

T. L. Smith Co.
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Milwaukee 10, Wis.

Smooth Ceilings System
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Minneapolis 1, Minn.

Standard Steel Works
North Kansas City, Mo.

Sterling Machinery Corp.
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Kansas City 10, Mo.

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Chicago 39, Ill.

Timken Roller Bearing Co.
Canton 6, Ohio

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Chicago 3, Ill.

Truscon Steel Co.
Youngstown 1, Ohio

Union Metal Manufacturing Co.
Canton 5, Ohio

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Rockefeller Center
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Universal Atlas Cement Co.
Chrysler Bldg.
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Universal Engineering Corp.
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Cedar Rapids, Iowa

Universal Form Clamp Co.
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Chicago 51, Ill.

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Cleveland 4, Ohio

White Mfg. Co.
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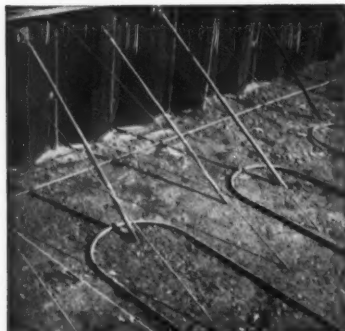
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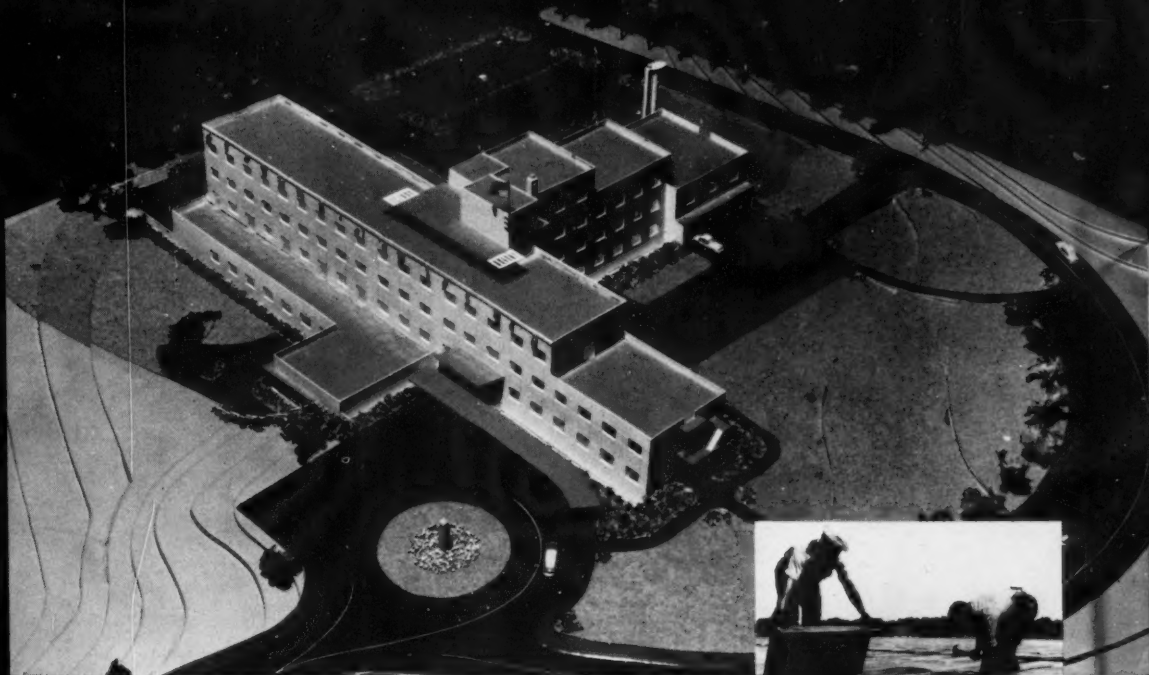


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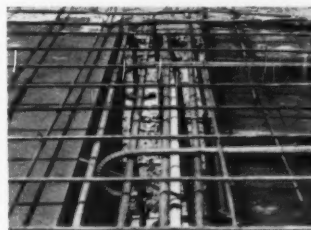


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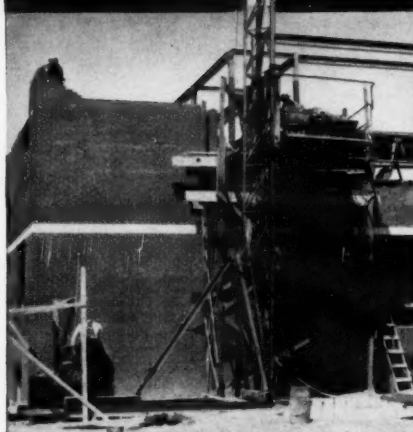
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Assemble tower on the ground, thus eliminating accident hazards.

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